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Inside

The Nuffield inquiry into MODERN LANGUAGES under Sheila Browne is halfway through its work. Karen Gold reports on the surprising information that has already been collected (page 11)

75,000 extra students could be accommodated in further education without employing a single new teacher, claims the AUDIT COMMISSION. David Jobbins describes its report and the reaction it has provoked (page 12)

The ARTS fight back: Rod Lyall criticizes the "familiar narrow utilitarianism" of the recent Green Paper, especially in its comments on the humanities (page 13)

For and against FREUD: H. J. Eysenck, John Bowlby, Anthony Storr, Ernest Gellner, Juliet Mitchell and R. D. Laing contribute to a symposium on psychoanalysis (pages 14-15)



Contrasts and controversies: Maurice Evans reviews the latest collection of essays on SHAKESPEARE by Kenneth Muir, "a wondrous necessary critic" (page 16)

IT: Legal data-bases, Unix, computer assisted language teaching and chemistry, audio-conferencing, and speech processing are among the subjects of a special report on information technology (pages 21-28)

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NEW WEEK

The censimento of Renaissance Italy

The Ian Paisley phenomenon

Paul Harvey on evolution

Profile of Ronald Dworkin

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The part-time question

The White Paper which established the polytechnics, now almost 20 years ago, left one issue end over which policy makers have continued to struggle. Should part-time advanced further education be concentrated as well as or as much as - full-time advanced courses in the small number of large planned as an alternative to more universities?

In that 1966 White Paper - the charter for today's polytechnics - the contrary arguments were briefly rehearsed. In favour of concentration of part-time courses it was argued that a "critical mass" was required for good advanced work, and that part-time courses were often parasitic on full-time courses. Against concentration it was argued that part-time students had to remain dispersed to be accessible to locally based students, and that the Higher National Certificate in particular, then the pivotal part-time advanced course, was the peak of a part-time pyramid that had its base firmly in non-advanced further education. But no clear conclusion was reached. Back in the 1960s the Department of Education and Science seemed to be hoping that time would offer its own answer.

Time has not been so generous. Twenty years later this question still lacks an authoritative answer. During its short life the National Advisory Body has been preoccupied by many issues of detailed policy that can be traced back to this great debate of concentration, of availability and quality, and at the bottom of this debate is the unresolved question about the proper relation between full and part-time.

It is hardly an exaggeration to say that the shape and direction of the whole non-university sector of higher

education are governed by the available answers to this question.

The value of this week's survey of part-time advanced further education by HM Inspectorate is that it focuses attention on this key sector. It places part-time courses - degrees, HNCs, professional courses and the rest - at the centre of the policy stage. Too often in the past they have been kept in the shadows illuminated only by distorting reflections of the debate about "mainstream", ie full-time, higher education. This survey, like most HMI work, also has the advantage that it starts with the particular and moves on to the general. If there are policy insights to be gained they are accumulated from the grass-roots, the needs and experiences of part-time students and their teachers, rather than being conjured out of the haze of highly political generalizations of those with a vested interest in a particular answer.

The conclusion of the HMI survey, which is based on the inspection of vocational courses only, leans towards concentration. But it includes sufficient countervailing evidence in favour of maintaining access, which in practice means dispersal, that the debate is left very much where it was before. The inspectors point out that more students could be enrolled on many courses at relatively low marginal cost, to the substantial benefit of the economy, and to the educational advantage of the students themselves. In particular they emphasize that large institutions like polytechnics with substantial stakes in full-time advanced courses, in research and consultancy, are able to provide better qualified teachers and more up-to-date equipment.

But the HMI survey also highlights the particularity of part-time students. They are not simply scaled-down versions of full-time students. Part-time

students have their own unique learning needs which grow out of their very different relationship with higher education and which require carefully differentiated teaching strategies. The inspectors also repeat the well-heard correlation between part-time opportunity and public transport timetables. They point out further that the pattern of the college year which has been designed to suit full-time students (500 years ago?) may not fit in with the different rhythms of part-time higher education.

So the survey, if read carefully, does not encourage too-simple, one-dimensional conclusions to be drawn. Although the inspectors are scrupulous in listing the costs, educational as well as economic, of dispersed part-time provision, their report cannot be interpreted as a charter for concentration. The dilemma between full-time concentration and part-time accessibility that defeated the framers of the polytechnics' White Paper has not disappeared. The ragged frontier that this unresolved dilemma produces between further and higher education will not disappear either.

Yet the inconclusive nature of the HMI survey does not detract seriously from its value. It is a genuinely helpful intervention that illuminates the particular issues created by the endemic tension between full and part-time higher education. It is important that these issues, which are so often highly charged with institutional and sectoral ambitions, are approached in a non-partisan and thoughtful style. The HMI survey of part-time advanced further education is important for another reason: it is a model of how inspectors can exercise their influence in polytechnics and colleges, not as punitive inquisitors but as constructive collaborators.

Language for profit

The greatest ally of modern languages at present is the neocorporal Japanese businessman, who reputedly said: "When I sell, I sell in English. But when I buy, I buy in Japanese. Britain's largest-ever inquiry into modern languages in higher education, funded by Nuffield, is halfway through its timetable, and it needs that Japanese businessman badly.

It needs him because the current consensus outside modern languages departments, on both sides of the binary line and including the Department of Education and Science, is that languages are humanities and ought to be cut. To an extent which will embarrass languages teachers, the Nuffield findings so far bear that consensus out (although not, of course, the conclusion about cuts): more compulsory literature; large numbers of single language degree students; many courses and options with two, one or no students at all. But cuts without policy will simply produce loss of the same. If the DES seriously wants to encourage vocationalism in higher education it has much delayed policy paper on languages in schools. Nothing Nuffield recommends in 15 months' time will be any use if A level courses continue to insist on literature papers; if all languages but French continue to decline; if 13 and 15-year-olds are not discour-

aged from giving up languages altogether.

If Nuffield was confident of changes in schools, it could more easily recommend them for higher education. No one would suggest abandoning the traditional language plus literature degree. But, particularly with evidence that entry to applied language studies is even more competitive than traditional ones, the balance of a single language and fewer than 700 doing a language and business studies is surely wrong.

To change that balance, modern languages need more courses offering inadequate language skills an equal respect and professions. It is also wrong to snatch at the conclusion that literature courses are irrelevant; in competition with Japanese industry a serious knowledge of Japan's culture may be Japanese. In any case if we are to Secretary of State desires, languages cannot be reduced to a dull utilitarianism but must be studied in the full extent of their creative potential. But, even when all these essential caveats have been entered, there is still a strong case for a better balance between the academic and the vocational in modern languages in higher education.

Privatizing business schools

It is a symptom of our times that anything published by the Institute of Economic Affairs receives wide, even capt, attention. Bold plans to privatize the welfare state or nationalized industries, to subject cosy bureaucrats to the market, are very popular - particularly in politics, journalism and the other. To such people the incantation of the "market" can appear an attractive short-cut to, or even substitute for, the hard grind of professional expertise,

public or private.

So not all IEA publications deserve the uncritical admiration which they receive. Certainly *Wages Business? A Radical Proposal to Privatize British Business Schools* by two City University business school professors Brian Griffiths and Hugh Murray need not be taken too seriously. Its argument depends on the accusation that business schools, particularly those in London and Manchester, are remote from the real world of industry and commerce. In fact there is little

evidence to support this accusation: both the London and Manchester stand-offish academic ivory towers suggested by this caricature, deeper. For it appears that rest on the assumption that the role of business management education and training is not to endorse the mediocrity of current practice. The authors seem to forget that "markets" can be levelled

Laurie Taylor



Monday
HELLO, THIS IS PRO
FESSOR LAPPING SPEAKING.
Ah, hello, Professor Lapping.
Maureen
I'M SO SORRY BUT
HERE AT THE MOMENT
HOWEVER DO LEAVE
SAGE AND I'LL RETURN
CALL AS SOON AS POSSIBLE.
It's Maureen, Professor Lapping.
AFTER THE BLEEP.

Tuesday
HELLO, THIS IS PRO
FESSOR LAPPING SPEAKING.
SORRY BUT I'M NOT HERE
THE MOMENT, HOWEVER
LEAVE A MESSAGE AND
RETURN YOUR CALL AS
AS POSSIBLE.
It's Maureen again, Profes
ping.
AFTER THE BLEEP.
It's Maureen again, Profes
ping. The vice chancellor who
said that he was sorry to be
ring him today. Bye, bye.
See you soon, bye.

Wednesday
HELLO, THIS IS PRO
FESSOR LAPPING SPEAKING.
SORRY BUT I'M NOT HERE
THE MOMENT, HOWEVER
LEAVE A MESSAGE AND
RETURN YOUR CALL AS
AS POSSIBLE.
AFTER THE BLEEP.
Professor Lapping, is your
working? I keep speaking
and nothing happens. Are you
somewhere? Hello? The
line is getting in a bit of a
state.

Thursday
HELLO, THIS IS PRO
FESSOR LAPPING SPEAKING.
SORRY BUT I'M NOT HERE
THE MOMENT, HOWEVER
LEAVE A MESSAGE AND
RETURN YOUR CALL AS
AS POSSIBLE.
AFTER THE BLEEP.
Professor Lapping, where
are you?

Friday
HELLO, THIS IS PRO
FESSOR LAPPING SPEAKING.
I'M SO SORRY BUT I'M NOT HERE
THE MOMENT, HOWEVER
LEAVE A MESSAGE AND
RETURN YOUR CALL AS
AS POSSIBLE.
AFTER THE BLEEP.
Professor Lapping, I've been
speaking. I'm sorry to disturb
during your hold... you
but there are urgent matters
discussed. Things have changed
university since you've been
There are matters to be discussed
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A4? You will. You will. And
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chat and a decent run of
ever you came over to
your conference expenses.
That's all over. Lapping. From
when I ask you to call me back.
Just that. Do you hear? THIS IS
RECORDED VOICE OF
PRESIDENT.

The Times Higher Education Supplement

July 5, 1985 No 661 Price 65p

Crisis plans warn of more cuts

by Peter Aspdon

Several universities have begun to sound the alarm for their future prospects, warning of massive financial deficits and departmental mergers and closures.

Their separate statements are in response to the University Grants Committee's intention to allocate funds on the basis of how universities tackle the problem of small departments.

At Birmingham University, the vice chancellor's planning committee has identified several departments "whose continued existence must be questioned", and has specified the need for planned losses.

The committee's report recommends the closure of the Italian and Hispanic studies departments, the phasing out of single honours courses in political science and sociology, the merger of classics with ancient history and archaeology, and the disbanding of the present school of Hellenic, Roman and Byzantine studies.

It also warns of reductions of academic staff numbers in several other departments, including Russian and theology, and urges a complete reorganization of the faculty of commerce and social sciences.

There should also be an amalgamation of some of the education faculty's five departments, to make savings from a "more economical use of expertise and resources," says the report.

The committee said it was attempting to "formulate a more robust structure" in the university, to better survive the inevitable difficulties of the future. It has also asked all deans to come up with spending proposals in line with a possible target saving of 2 and 3 per cent per year for the next five years.

All faculties of Queen's University, Belfast, are being urged to consider ways of restructuring departments so as to bring about as many amalgamations and mergers as possible.

The drive is aimed in particular at those subjects which fragmented during the 1970s and multiplied to become disciplines in their own right. The move now is to reverse the process so that financial resources can be more economically deployed, and overlaps and duplication of staff, lab facilities and equipment avoided.

The senior pro-vice chancellor, Professor William Kirk, explained: "At the moment we are not demanding any shotgun marriages. We are saying 'explore all avenues. If you find advantages in coming together in another structure we will try to facilitate this'.

But in the current period of shrinking resources, we are being forced to examine whether support for all departments is really viable. "Departments like their independence and autonomy, and obviously there is a great reluctance to give up running one's own show. But giving up a certain amount of independence in some areas may be necessary for

Differential pay plan for dons moves closer

by David Jobbins

The prospect of differential pay for university teachers, which was floated in May's Green Paper on higher education, moved a stage closer this week.

The Department of Education and Science made it clear that arguments based on salary comparability or erosion were insufficient to win extra money for university teachers. Only clear evidence of difficulty recruiting, retaining and motivating staff would be able to do that.

This uncompromising message was conveyed through informal contact between the DES and Sir Alexander Johnston, the independent chairman of Committee A, the first stage in the machinery for negotiating university teachers' pay. Its unambiguous implication is that university teachers in competitive fields such as computer science should bid bigger increases than those in subjects where there are no recruitment difficulties.

Now the vice chancellors and the Association of University Teachers have agreed to cooperate to collect the evidence demanded by the DES.

The development is a serious blow to the AUT, which has based its campaign around the erosion issue, and has been trying to convince the vice chancellors that they should join in an approach to the DES with a report in which they agree that salaries have fallen in value by 24 per cent since 1979.

A ballot of AUT members published this week showed that 97 per cent of the 70 per cent of the 30,000 members voting believed the joint report should be submitted now without waiting for the 1985 claim to be settled.

And 99 per cent said an independent inquiry was the only way to settle the erosion issue, while 90 per cent agreed that any 1985 settlement should not undermine the other teacher union's campaign.

AUT leaders drew some comfort from the DES's agreement to discuss salary erosion with them and the vice

chancellors outside the formal pay negotiating machinery. The discussions were due to start yesterday.

The union's executive meets today to assess the position. Both the executive and vice chancellors are alert to the differential salaries threat.

General secretary Ms Diana Warwick said: "We know there are problems about recruitment and there are certainly problems on motivation. But we would resist any attempt to suggest that these arguments justify differential payments."

The vice chancellors offer remains formally at 4 per cent, and the DES is sticking to its view that it cannot afford more.

Ms Warwick denied that negotiations had reached the point of breakdown. "We feel there is scope for further improvement," she said.

But the union is deeply conscious that time is running out for any allocation of extra Government money from the next financial year.

Hopes are rising that a settlement may be in sight in the dispute over college lecturers' pay with today's Bursham further education committee expected to centre on a proposal by Labour local authority leaders which will offer a package eventually worth 7 per cent, but conditional on progress in structure talks.

Some employers are ready to offer the long-sought and politically crucial merger between the two lowest salary scales as an earnest of good faith, but emphasize this will not remain on the table for long.

The main union, the National Association of Teachers in Further and Higher Education, adopted the Lecturers' Association's proposal as a plank of its pay claim, and it has considerable support in the colleges, where more than 12,000 lecturers are stuck at the top of the lowest grade.

Union leaders accept that there may be opposition to reaching a settlement in advance of the schoolteachers but feel a victory on automatic transfer would be sufficient to overcome it.

The DES has ruled out legislation to implement one of the Lindop committee's main recommendations - that of giving the Secretary of State powers to designate degree-awarding institutions.

Instead, if the government decides to make polytechnics or colleges self-awarding, their degrees and diplomas would simply be included in the list of those qualifying for mandatory students awards. This would put such institutions in the same position as the private University of Buckingham before it was given a royal charter.

Government legal advisers have told the DES that there is no constitutional basis for linking degree-awarding powers to charters or authorization by the Crown, and therefore legislation would be unnecessary.

The Lindop committee, which was established by Secretary of State for Education and Science Sir Keith Joseph to look at standards and validation in public sector degrees, recommended in April that there should be legislation to allow the Secretary of State to designate certain institutions as capable of full autonomy and give them degree-awarding powers.

But Sir Keith is also known to be concerned that this might not preserve standards, which was his reason for setting up Lindop in the first place. The latest moves by the Council for National Academic Awards, offering changes to its charter to give institutions full accreditation, have also been perceived within the DES as showing the CNAA means business.



Lee Jin-Heng, a Chinese national coach in the martial art of Wushu, gives a demonstration at Edinburgh University with the aid of 14-year-old Colla Chinnery, son of Dr John Chinnery, the head of Edinburgh's Chinese department.

Mr Lee will be attending Edinburgh's applied language institute next session to learn English. He has been helping select a British national Wushu team, of which Colla is a member.

DES snubs Lindop's degree plan

by Karen Gold

Three-way talks between Keele University, North Staffordshire Polytechnic and Staffordshire local education authority are to be established to discuss a possible university/polytechnic merger.

The working group to hold discussions on collaboration is to be announced next week. Its brief, according to Staffordshire's chief executive, Mr Bernard Price, includes considering "opportunities for further collaboration including the possibility of amalgamation leading to the creation of a new regional university".

The working group will have three university members, including Keele's vice chancellor Dr Brian Fender, and three polytechnic ones, including the director, Dr Frank Dickinson. The local authority's chief executive and chief education officer will also attend. It is to report in October.

The talks were established after Dr Fender approached Staffordshire not long after he became vice chancellor at Keele in March. Discussions are understood to have accelerated in the last two weeks.

Work on which areas of the institutions are compatible will begin with the working party. Mr Price said it would look at whether the existing strengths of the university and the polytechnic could be further enhanced through a programme of collaborative initiatives.

"This might include the establishment of joint courses, support units, research programmes and shared facilities," he said.

The National Association of Teachers in Further and Higher Education has asked to have an observer at the talks.

The two institutions have very different but possibly complementary academic profiles: Keele is small and suffered badly in the University Grants Committee 1981 programme of cuts; it is also vulnerable due to its large proportion of humanities courses and four-year degrees.

North Staffs Polytechnic has a solid if unexciting image and has been well-served by the National Advisory Body in recent years for its large numbers in engineering and computing.

Keele in merger talks with poly

by Karen Gold

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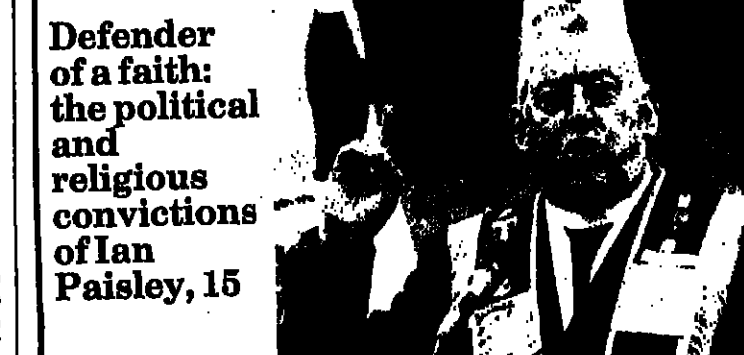
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Defender of a faith: the political and religious convictions of Ian Paisley, 15

Computer scientists send 'Star Wars' protest to Bush

by Jon Turney
Science Correspondent

Many of Britain's computer science academics signed a letter this week to the visiting US vice president, Mr George Bush, arguing that the proposed American "Star Wars" programme is technically impossible, and may increase the risk of accidental nuclear war.

The letter was timed to coincide with Mr Bush's talks with European leaders to seek support for research to underpin the US strategic defence initiative. Over 70 university scientists, including many of the British artificial intelligence community, have told Mr Bush the SDI makes demands on computing technology which can never be met.

The signatures were gathered by an Edinburgh-based group known as Computing and Social Responsibility. Dr Alan Bundy, of the department of artificial intelligence at Edinburgh University and a member of the group, said they were concerned that the plans for the SDI envisage a completely automatic system to detect a Russian nuclear attack and intercept hostile

missiles. They maintain there is no possibility of writing error free computer programmes for such a large and complex system.

The letter to Mr Bush says: "When the cost of a false alarm is an unprovoked attack on the Soviet Union, which will then certainly (and probably automatically) respond with a real missile launch, it would literally be suicidal to rely on necessarily unreliable computer systems in this way."

Similar arguments have been voiced by some computer scientists in the US and Canada, though they have not had much impact on the American re-

search plans. The Edinburgh group's letter only takes technical issue with the Star Wars programme, but Dr Bundy said many British computer researchers would not want to take part in SDI research.

Well-known academics who signed the letter, delivered to the American Embassy in London include Professors Igor Aleksander and Bob Kowalski of Imperial College, London, Donald Michie of the Turing Institute, Roger Needham and Karen Sparrow Jones of Cambridge University and Professor Tony Broderick of the University of Sussex.



Letters to the editor

Looking at modern language needs

I sit at my typewriter in the early hours of the last morning of the polytechnic term and am inclined to humour myself by reflecting to no purpose on the last days of the dying academic year. For it has been the worst polytechnic year in my memory. The amount of work has been overwhelming, my own health has been fragile and the weather has been appalling. I have a general sensation that the world is in bad shape and that something should be done about it.

Fortunately I am an academic and therefore it is not up to me to do anything drastic. So let me instead reflect upon some happy days on the last few weekends and think about halcyon days that were even better. You might think that enough films have already been made about the city of York but that does not deter other companies and I have as a result been retracing my ways and talking into the lens.

The company making the film have a copy of my book on York, subtitled *The Continuing City*, and unlike the buying public who have been slow to appreciate its worth, have discovered that it contains all the information and observations that they needed.

So two Sundays ago I was in a boat on the river Ouse at 8am drifting with the current, swinging about and talking about the Romans and the Vikings who established the site and shape of the city. It had never looked more beautiful. The sun was shining gently, there was moisture in the air and it was pellucid. Every detail stood out with the utmost clarity. I had not been on the river at that hour for more than 20 years. I nearly drowned myself, not in the river but in nostalgia.

For the "continuing city" continues exactly the same in lots of ordinary ways and has yet in others been transformed. Even at that early hour there were old men sitting on the river banks with their baskets reaching out into the Ouse. I swear they were the same old men who had been there for 20 years, unsmiling, wary and endlessly patient. The Foss had a few more boats in it than before, the trees looked a bit thicker, the visitors just arriving looked a bit fatter and more American.

What had changed were the warehouses lining the right bank. They had been (for York) relatively tall, gaunt and dirty old Victorian buildings. The cranes were rusting and the buildings crumbling away. Now the cranes look usable and the warehouses have been cleaned. A few have been cleared away. The survivors, bright with white painted windows, have become offices and restaurants. The old huge letters saying *Use the Ouse* have also gone. Well, we didn't know what to use it for anyway.

I spent several hours in Fairfax House near the Castle. It has been brilliantly restored - possibly the best restoration of a Georgian building ever carried out in this country. Its plasterwork is impeccable. The furniture is the collection made over many years by the late Noel Terry. Of course it ended with the steps of the Central Hall and briefly describing the ideas that lie behind the university's appearance. My nostalgia was complete.

Patrick Nuttgens

Sir, - In response to your interim report on the Nuffield inquiry into modern languages and your editorial on the same subject (*THES*, June 28), it is important to stress the extent to which the provision of language courses in higher education has already successfully responded to the objectives you consider appropriate and desirable.

It is, for example, misleading to give the impression that there has been little attempt to identify the language needs both of the country and of prospective students. The language needs of commerce and industry have been regularly and consistently established in a long series of studies dating from the early 1970s to the publication earlier this year of *Business Studies, Languages and Overseas Trade* by Lison and Reeves. The needs of students on courses in public sector higher education were fully researched in a 300-page report published by the Standing Conference of Heads of Modern Languages in Polytechnics and other Colleges in 1982: *Language Needs in Higher Education*: Gardner and Winslow.

Furthermore, provision in the public sector has constantly sought to reflect these identified needs. A brief glance at the index to the SCHML guide to language courses indicates for example 45 courses combining languages and business studies as distinct from two combining languages and literary studies. It is quite clear that the "better balance between the academic and vocational" already exists to a great extent in the public sector.

With regard to some of the other points raised in your editorial, the public sector does NOT have "exten-

sive compulsory literature, large numbers of single language degree students, many courses and options with two, one or no students at all". We do have "courses offering languages and chemistry, mechanical engineering, information technology". Furthermore, the extensive provision of *ab initio* teaching has always been a distinguishing feature of language in public sector higher education, and single languages rarely if ever exist in separate departments.

Given this profile, it is a cause for considerable concern that it is precisely this kind of provision which will suffer a 20 per cent cut in 1987/88. What is perhaps even more worrying, for those who would wish to see the provision of modern languages in higher education planned on a more rational basis in the future, is the National Advisory Body's apparent refusal to accept that the results of the Nuffield inquiry (and the Department of Education and Science policy paper) might be important factors for consideration in any coherent or respectable planning exercise.

Yours faithfully,
TONY HARDING,
Chairman, Standing Conference of Heads of Modern Languages in Polytechnics and other Colleges.

Sir, - Your editorial and Karen Gold's article on the Nuffield inquiry identified a number of issues which will no doubt be discussed in detail within language teaching organizations and policy making bodies once the full consultative papers become available. In the meantime, one or two observations on perspective may be in order. It is misleading to predicate a crisis

on statistics which show that, of a possible 2,612 subject combinations involving a language, 1,141 had no students. The UCCA coding system simply lists theoretical combinations and students make their choice, which in most cases reflects A level subjects and conventional thinking on subject linkages. It is thus scarcely surprising that few are interested in Italian and film studies (relevant as that may be in certain circumstances). I suspect that there would be an equally limited take-up for chemistry and archaeology.

What is a matter of concern is that, neither in its attitudes nor in its structures, does the education system facilitate the study of language awareness or for foreign languages over sufficient time or in a sufficiently broad spectrum of realistic and practical combinations. O level choices at 13+ and the longevity of literature-based A levels, together with the virtual impossibility of combining a science with a language in the sixth form, all contribute to the perpetuation into higher education of the arts/science split and to the view that a student attempting to span that gap must be eccentric. In this respect the opportunities presented by A/S levels must be exploited.

Some shift of resources towards language centres and vocationally orientated courses may well be desirable. However, at the root of the problem lies a national attitude which, when 75 per cent of our Members of Parliament fail to understand a speech in French by President Mitterrand, responds with jokes and cartoons rather than with policies.

It needs to be said that the language teaching organizations at secondary

and tertiary level not only agree with the view that a reassessment of the nations approach to languages at language learning is long overdue, but are cooperating in every possible way to ensure that the Nuffield inquiry is able to produce an authoritative statement which will compel action.

Such action will require not only change within language teaching departments, but recognition of the provision of inservice courses for "language and literature" teachers wishing to convert to "language and literature" A levels; in the recognition that shift to learner-centred teaching requires a higher investment in capital equipment and technician support than is currently envisaged by the NAB or the University Grants Committee; in a recognition that the introduction of "vocational language" courses in law, business studies or physics will only happen if space is made within each curriculum for language study.

Finally, it will need to be recognized that the rate at which a change of course can be effected will be dependent upon the availability of resources for research and development into materials and methodologies appropriate to the task in hand. At the moment, no research council has a clear brief in this area and neither the NAB nor the UGC sees languages as an area for support in their newly defined selective approaches.

Yours faithfully,
J. D. WINSLOW,
Chairman,
National Council for Modern Languages.

Subject choices

Sir, - It will be interesting to see how the Government succeeds in attracting more young people to science and technology in higher education when, by inference, they have already excluded approximately half of all potential applicants.

In section 2.11 of the Green Paper, they suggest: "Those responsible for counselling intending students (and, perhaps, particularly girls) about their subject choices should be aware that the proportion of arts places in higher education as a whole can be expected to shrink".

This statement is contradictory to the Sex Discrimination Act of 1975 which "makes sex discrimination unlawful in employment, training, education..." and is in direct conflict with paragraph 4.6 of the Equal Opportunities Commission booklet *Equal Opportunities in Post-School Education*. I quote: "Any guidance given to students or potential students must be non-discriminatory and lectures, counsellors, etc. should ensure that they do not discourage students from considering non-traditional courses."

This is doubly ironic given the fact that 1984 was designated Women into Science and Engineering Year. If it is to be abandoned in favour of an irrational perpetuation of the status quo, whereby girls and women with the appropriate potential are actively discouraged from entering the world of science and technology?

SHARMAN HOUGHTON
Administrative Assistant,
Humbleside College of Higher Education.

Whose business

Sir, - I was dismayed to read the dilettante criticism in your third editorial (*THES*, June 28) of professors Griffiths and Murray's Institute of Economic Affairs paper *Whose Business?*, particularly as such objections as the ones advanced had been answered on pp67-69 of the paper.

Whatever one thinks of Griffiths' and Murray's conclusions, reactionary statism does not even begin to become an alternative to those conclusions unless assertion is replaced by argument.

Yours sincerely,
WILLIAM ARTHURS,
Belgrave House,
46 Acomb Road, York YO1 1AA.

Euro-summit backs research link-up

by Jon Turney
Science Correspondent

The European summit meeting in Milan last weekend produced strong support for new initiatives in high-technology research. And a follow-up mission in France in two weeks' time looks set to shift organization of fresh European programmes from the European Commission in Brussels to a more flexible framework developed from French proposals for a series of projects under the general banner of "Eureka" - a European research co-ordination agency.

Summit leaders spent less time on research than planned because of the problems which beset other agenda items in Milan. But they backed proposals to develop collaborative research in Europe, and to link research more tightly to a Europe-wide market.

The original Eureka proposals were an ill-defined response to invitations from the United States to contribute to the multi-billion dollar "star wars" defence effort - which the French see as a move towards technological asset-stripping of Europe.

But the Eureka proposals, which take in a range of possible projects from super-computers to high-speed trains, were attractive to other countries, including France and Germany.

They see advantages in taking new research out of the hands of the European Commission, which needs backing from 12 member countries for any new venture.

The commission responded with a

paper of its own outlining possible new programmes in everything from biotechnology and computers to communications and oceanography. This paper was noted by the summit, but although the final communiqué was neutral between Eureka and the commission there is little enthusiasm for entrusting new work to Brussels.

The large European countries appear keen to set up a mechanism which would let individual nations opt in or out of a selection of new projects - variable geometry in Euro-jargon. Paradoxically, this will mean increasing the 12 countries to 16 for the forthcoming French meeting, as Sweden, Switzerland, Norway and Austria will be invited to join in.

The agreement to hold the follow-up meeting so quickly will make it difficult for the commission to produce any fresh alternative proposals in time. But there will be much activity behind the scenes in the next two weeks. In particular, Britain is anxious to secure agreement for measures to bring technology to the market, including a proposal for common standards known as Eurotype, tabled at the summit.

Mr Geoffrey Pattie, minister for information technology in the Department of Trade and Industry, has been consulting interested British companies on our response to Eureka, and they back the emphasis on measures to unify the European market. But the French enthusiasm for research is likely to ensure both ends of the spectrum are covered.

Still no hope for teacher training cash

The fate of the three colleges threatened with closure by teacher training cuts will have to be determined without a final decision on the funds available for the reorganisation of provision.

Sir Keith Joseph, Secretary of State for Education and Science, met the committee of the National Advisory Body this week and left open the possibility of additional resources.

But a firm reply is not expected in time for this month's meeting of the NAB board, which will discuss proposals to remove teacher training from Hertfordshire and North Riding colleges, Portsmouth Polytechnic and the College of St Mark and St John, Plymouth.

The committee made a four-pronged approach to Sir Keith, also raising public sector involvement in the "switch" initiative on engineering and technology, the inadequacy of capital spending budgets and the likely denial of access to polytechnic and college courses on current estimates for the NAB's 1987-88 plans.

Sir Keith offered no hope of concessions on capital plans because of wider Government policy limiting the spending of local authorities. His decision to include the polytechnics in the second phase of the £43 million switch programme had drawn the sting from protests over their initial exclusion.

The meeting therefore concentrated on the NAB's case for more money next year for teacher training and subsequently for the system as a whole. Sir Keith was said to be sympathetic to the case for extra funds to smooth the way for a restructuring of public sector higher education.

Reactions after the meeting were mixed, although there was little optimism about the prospects of more money for teacher education. At least one member of the committee felt that the cool reception from Sir Keith called into question the value of further direct approaches.

Universities sound alarm over deficits and closures

continued from front page

survival - and to achieve strength in size and viability."

It is also envisaged that some departments will gain academically from closer association with others. A whole host of departments which could co-exist as historical studies have been

Colleges keep lion's share of YTS

by Patricia Santinelli

Colleges of further education are to receive two-thirds share of training in the new two-year Youth Training Scheme which was approved by the Government this week, only a few days after proposals were put forward by the Manpower Services Commission.

This assurance was given by Mr Ken Atkinson, director of the MSC's YTS, speaking about the full details of the scheme which make scant reference to colleges and the education service's role. The blueprint model for the two-year scheme is to be available from the MSC next week.

Mr Atkinson said that the colleges were now providing two-thirds of the 13-week off-the-job training for the scheme, and were expected to continue at this level. He added that currently only 2 to 3 per cent of colleges acted as managing agents, with the same proportion for local education authorities and this was expected to remain unchanged in a predominantly employer-based programme.

His statement might go some way to allay fears expressed by the National Association of Colleges in Further and Higher Education which pointed out

this week that it remained deeply concerned about a number of aspects on the YTS.

In particular, Mr Peter Dawson, general secretary of Natfhe, said that the systematic reduction of college-based schemes in the one-year YTS flew in the face of all the evidence that many young people needed the supportive quality schemes available in the colleges.

The actual blueprint document makes it clear that linkages and free movement between education and the YTS are regarded as essential. It also says that training within the scheme will need to recognize the provision by the education service for young people before they are eligible and the full and part-time educational opportunities that will be available for those who have left the scheme.

Mr Atkinson made it clear too that the commission's decision not to pay for unfilled places, which is particularly likely to endanger provision under Mode 1 "training workshops and community and voluntary organisations schemes", was necessary because the resources were not available. Unfilled places on Mode B last year cost £35 million.

He stressed that local authorities, employers and others would be ex-

pected to top up funding for the scheme out of their own resources or contributions they could gather. A two-year YTS was based on this.

Basically the two-year YTS will start in April 1986 but parts will not be implemented until 1987 and others by 1989 at the latest. It is aimed at a total of some 500,000 youngsters although the MSC admits this may be a gamble. Sixteen-year-olds are to be offered two years and 17-year-olds one year. The scheme is intended to be voluntary for both young people and employers.

Young people on the scheme will receive £27.30 in the first year rising to £35 in the second year. Seventeen-year-olds joining the scheme will come in on the lower level of allowance except in cases where they are given credits for previous educational or work achievements.

The scheme is to be available through one mode. The first year to provide broad-based training, progressing in the second year to more occupation-related training. It will offer a minimum of 20 weeks off-the-job training, the majority of which is to take place in the first year.

The basic grant for each filled place will be £160 per month, but this can be topped by an additional £110 per month to meet special needs.

The sky's the limit as joint European observatory opens

British astronomers' eyes turned overseas this week with the fulfilment of two major international projects, on land and in space.

The Glott probe, which will intersect Halley's comet next March, was launched from the French space centre in West Africa. More formally, the joint European observatory on La Palma in the Canary Islands was inaugurated by King Juan Carlos of Spain.

The La Palma site, the Observatorio del Roque de los Muchachos is the home of the Science and Engineering Research Council-operated Isaac Newton telescope, and the 4.2 metre William Herschel instrument due to be completed in 1987. The site has been developed jointly by Spain, Britain, Denmark, Sweden, the Netherlands and the Irish Republic.

Ironically, the Royal Greenwich Observatory, the in Sussex, which provides the main support for British observations at La Palma is currently under review by the SERC, and may soon be merged with other establishments or moved. The review under-

standing no authority has the intention of operating a profit then no charges should be made on adult education classes."

A similar attempt to tax classes by Kent County Council was halted after the terms of the Act and other factors were pointed out and no Kent classes are now subject to VAT.

Miss Susan Fey, an ECA executive committee member, fought the case with Kent and has compiled guidelines to help other adult centres fight VAT charges.

"It would appear that Devon is trying to privatise adult education and if that is the case then they should come out and say so," she said. "It is a fact that both the Russell Report and section 41 of the Education Act say adult education is an integral part of the local education authority's service and neither Finance or VAT Acts have altered that situation."

Devon's education committee chairman, Councillor Mrs Margaret Rogers, who has just taken the seat following the heavy Tory defeat by a Liberal/Labour alliance, says she will be re-examining the issue.

"I do not agree with applying business principles to education and will probably be asking the education department to look again." She has also asked a retired VAT inspector to study Devon's situation and to prepare a report.

lines the fact that La Palma, and the microwave telescope being built on Hawaii, mark the close of an era of heavy capital investment in ground-based astronomy by the council.

Britain is also heavily involved in the Glott mission, one of five probes converging on Halley's comet as it makes its once in 76 years pass through the solar system. The Glott craft was designed and built by British Aerospace, and carries experiments from the University of Kent probing cometary dust and from the Mullard Space Science Laboratory at University College, London, looking at Plasmid. Scientists at Kent watched the launch on Tuesday on a special satellite link.

Nine other European universities and institutes have built instruments for the craft, the first with the ESA's Ariane launch vehicle has boosted beyond earth orbit. If all goes well, Glott will meet the core of the comet in March travelling at 152,000 miles an hour. The five craft now on course for Halley are taking advantage of the first opportunity to examine a comet.



Sitting on the fence: Sir Denis Wilkinson, vice chancellor of Sussex University, tests new play equipment for children on campus, donated by the university's graduates' association.

Row over county's VAT levy

by Felicity Jones

Plans to levy value added tax on selected adult education courses in Devon have led to claims that the local authority is trying to privatise education by stealth.

Devon County Council has asked the adult centres to itemize the cost and income for individual courses. When equipment takes place in September, those sport and recreational courses which can be shown to be making a profit will add a 15 per cent VAT charge to the fees.

Mr Alan Williams, Devon's assistant education officer (finance), said the authority had no choice but carry out the exercise as the local VAT inspectors have already treated all income as taxable and put the onus on Devon to prove which courses should be exempt.

The Educational Centres Association has become increasingly concerned about VAT and adult classes and the dogmatic attitude being adopted by some inspectors.

Mr Dominic Delahunt, the ECA secretary, has written to the chief education officer Mr Joselyn Owen voicing concern that Devon is one of the few councils which has actually been prepared to go ahead and levy the tax.

"It is a matter of principle to ECA members. Adult education is part of the responsibility of a local education authority under the 1944 Act to offer a general education curriculum," he said.

"Since no authority has the intention of operating a profit then no charges should be made on adult education classes."

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DON'S DIARY

THURSDAY

A watery ribbon of sunlight, struggling to make its mark on the pale bedroom walls, catches my nuptial, contact lensless eyes as I start into wakefulness. What is different about today? The rush for the early train to London... no, that's usual enough, although I must keep moving. Perhaps it is because I have at long last got round to taking my car again so that from today I'll be able to use parking-meters again like a regular citizen.

Eventually a blurred sighting of a discarded "best from" on the floor reminds me! That's it - courtesy of yesterday's Council for National Academic Awards institutional visit, I am now a member of a, in fact, the first self-validating polytechnic, rushing through hair-washing, putting my contact lenses in - immediate vision, instant, gratifying and even after five years of use, a daily source of amazement. Two cups of coffee and the drive to the station and its implications begin to sink home. As one who has never had the opportunity to be seduced by the CNA's first class rail tickets and expenses-paid dinners, it can only be good news for me, bringing as it does release from the constant and recurring treadmill of submission and resubmission.

When I was made a reader about a year ago, the process was, as it still is, somewhat mysterious, reflecting many of the diversities yet interconnected uncertainties about the value given to research in this and other polytechnics. The title, and in my case the promotion and salary increase, as well as a reduction in formal teaching hours were offered as recognition of a modest research track record. This work had long been, as it is now, a sufficient source of curiosity and fulfillment to drive me out of bed at an early hour and to do what I often found myself calling "my own work" before the demands of the poly took over.

By the time the train reaches Leicester I am caught up in a wonderful but hopelessly unrealistic fantasy in which all my talented and hard-working colleagues who have hitherto devoted their working lives to the pursuit of CNA's experience and eventually confidence from, of course, "both sides of the table" (there is an explanation of this common CNA metaphor for the uninformed at the end of this column), and are transformed overnight into enthusiastic scholars of all shapes and sizes.

My new identity as a self-validating polyperson loses its silliness as the day wears on, especially when several of my students at the Civil Service College, where I am doing some lectures on divorce, express surprise and disbelief that I come from a polytechnic at all. Perhaps the Committee of Directors of Polytechnics' most effective strategy to beef up the image of polys would be to arrange for a wholesale penetration of the express stream of the civil service by poly graduates.

A brief hour of relaxation in a friend's flat allows for a bath and a pot of very strong lily-black coffee in preparation for the evening ahead. It is one for which I have been preparing single-mindedly for some weeks. No, gentle reader, you are not about to be treated to an intimate revelation from the private life of a somewhat eccentric female academic, for I am merely on my way to take part in a BBC Radio Four programme on marriage for which I have acted as consultant and researcher.

The studio guests, representing Church, State and various kinds of expertise on marriage foregather in the Green Room and the phone lines

come alive with calls from those "out there" who are living with and in marriages which offer their own unique mixtures of pain, confusion, fulfillment and even elation.

FRIDAY

With the radio programme now over I wake up feeling as if the rest of my life starts now. Gossip, part-work, part-not lunch with a friend before collapsing into the Sheffield-bound train. Intend to make lists and work out my most important tasks for the next few weeks and to sleep off the alcoholic excesses of lunchtime but I am collared - or more accurately, corralled - by a Sheffield acquaintance who insists on delivering a detailed and entirely unsolicited account of his impending marriage breakdown which lasts till just past Derby. Somehow it gets under my skin, perhaps because of its very unwantedness, so that despite exhaustion, a bath and a relaxed Italian meal out, I do not sleep very well.

SATURDAY

I have noticed that there is a marked tendency for dons who are preparing to submit diaries for this column to work their socks - or tights - off for the entire weekend in order to convince themselves and each other that the academic life is one of unremitting toil. This seems somewhat self-defeating as their colleagues will already have a reasonably accurate idea of how hard they actually work and members of the Audit Commission, leader writers on the *Daily Mail* or the *Sunday Express* and the value-for-money, I'm educated-in-the-university-of-life, Home Counties, golf club fraternity probably never read *The Times* anyway.

This weekend I plan to play squash several times, to buy up Sainsbury's and cook several large and beautiful meals for as yet unspecified numbers of friends and family, to talk a lot without worrying overmuch about what I am saying, to finish the novel I have been reading for three weeks now and... to sleep.

MONDAY

Still tired. My mail tray at work is overflowing after several days away. Perhaps one of those nice Audit Commission people would like to come and advise me what to do first. An unheralded request, couched more as a command, from the CNA's research degrees committee secretariat - it can't be an actual person - to vet an MPhil proposal which will take half a day to do properly and not so much as the hint of an offer of a free lunch by way of recompense. This is followed by a couple of letters addressed to me at Sheffield University which have been somewhat sternly and inaccurately redirected: "Not known here - try treated by your alma mater! I'm glad I've grown up and become self-validating at last."

GLOSSARY

The table metaphor is frequently employed by both CNA's visiting parties and, less frequently or powerfully, by those being "visited" as a means of reminding one another that, regardless of any other work or personal connections they may have, sociologists it does seem to me to have somewhat incestuous tendencies) that they are for the purposes of the Visit on opposite sides (and if you think this sentence is a long one, just try a random set of CNA's minutes). In my experience phrases like "from our side of the table" when used by members of visiting parties to preface observations such as "there appears to be little evidence of any connections between your course's stated aims and objectives and the syllabus proposed" - often indicate that the speaker's only real sense of power at the time is derived more from his CNA "side" than any particular academic convictions s/he may hold about the health of the particular course or institution under consideration at the time. I have only ever observed this on a couple of occasions but there did seem to be a great many tables.

Jacqueline Burgoyne

The author is reader in applied social studies at Sheffield City Polytechnic.

Unions to unite over access

by David Jobbins

Campus trade unions in the universities and the public sector are aiming at a united response to what they see as the Government's attack on access to higher education.

For the first time unions from both sectors are to hold a summit meeting, scheduled for later this month, to discuss the Green Paper, *Development of Higher Education in the 1990s*. There will also be a review of the unions' strategy on salaries either side of the binary line.

Unions involved are the National Association of Teachers in Further and Higher Education; the Association of University Teachers; the National and Local Government Officers' Association; the Association of Scientific,

Technical and Managerial Staffs; the National Union of Public Employees; the Transport and General Workers Union; the General Municipal, Boilermakers' and Allied Trades Union; the Confederation of Shipbuilding and Engineering Unions; and the National Union of Students.

With the exception of the teaching unions and the ASTMS, all the others have members in both universities and public sector polytechnics and colleges. Some such as Nalga have separate officials for the universities and the local government sector.

Some kind of Parliamentary action, such as a lobby, is one course of action to be considered.

Union leaders are angry that the Government has effectively stood the

joint University Grants Committee, National Advisory Body, etc., making the Robins principle on its "benefit" relaxation and insisting that benefit must exceed the cost.

In a motion submitted for discussion at the Trades Union Congress September, Natfhe calls for backing for the extension of the NAB as defined by the NAB in the case of an expansion of higher education for adults, and a right to educational leave.

The motion regrets the extension of the Youth Training Scheme to years with inadequate funding before problems associated with the present scheme have been solved.

Sussex calls for joint stand on research

by Peter Aspdren

The senate of Sussex University has called for all universities to reject collectively the University Grants Committee's policy to be more selective in its support for research and redistribute resources.

The senate's motion - the strongest statement of opposition to the UGC from a university so far - was passed by a two to one majority. But the university's council effectively quashed the motion two days later by deciding to refer it back to senate.

That means that the university officers and its vice chancellors will not be putting the senate's views formally to other universities and the Committee of Vice Chancellors and Principals.

The proposer of the motion, Dr Les Allen, said he was "very disappointed" by council's reaction. "We felt it was an important issue, but we shall continue to put forward our views informally," he said.

He said the motion was an attempt

to spur universities into joint action by refusing to complete the research part of the UGC's recent letter, which must be given in by the end of November.

"We feel that all individual universities should have provision for carrying out research, and that it was about time to enunciate that quite clearly to the UGC and the Government. It is basically a call to make a stand. Universities did not really oppose the Government very effectively in 1981," said Dr Allen.

He said there was no inconsistency between making the call for joint action and Sussex making its own response to the UGC letter. "Obviously it would be pointless for any one institution to go it alone, and we are preparing our statement to the UGC. We were hoping that other universities would pick up on what we were saying and that we could act collectively." Dr Allen added he would reintroduce the motion at the next meeting of senate in November.



This little piggy landed Wolverhampton Polytechnic student Scott Brooker a job with Central TV's *Splitting Image* puppet-politics programme. Scott, 21, made dog and pig puppets for the programme, assessment of his art and design degree. The puppets were used in the programme, and in September he is to join the *Splitting Image* team.

Racial equality unit set up at poly

Lancashire Polytechnic is establishing a racial equality unit with a £30,000 Home Office grant, five lecturers, and a plan to monitor student recruitment and welfare, staff employment, courses and the curriculum. Advertisement for the five lecturers and back-up administrative staff will be made shortly, and the unit is expected to start work next term. The polytechnic is investing a similar sum to the grant from the Home Office each year for three years.

The unit is being set up with the Lancashire Industrial Language Training unit in Accrington, the Commission for Racial Equality, and Lancashire's local community relations councils.

Its first job, according to polytechnic director Mr Eric Robinson, will be to look at the numbers of ethnic minority students in each subject. In the polytechnic, at ethnic minority staff, and to consider what could be done about unsatisfactory numbers or distribution.

Anger over travel grants

Gainers outnumber the losers after the introduction of flat rate travel grants for Ulster students, according to an official survey.

Carried out by the Department of Education, Northern Ireland, it says that 49 per cent of students were better off as a result of the new system which came into effect last September.

There was no change for 13.5 per cent, while 37.5 per cent were worse off. Less than a third of students would lose between £1 and £150, while 7.5 per cent would be more than £150 worse off.

But the figures have been attacked by the National Union of Students in Northern Ireland, which argued that rough justice made by ministers when the scheme was introduced in England, Wales and Northern Ireland.

The students said the figures showed that while 56.5 per cent of the gainers were between £1 and £50 a year better off, 65.9 per cent of the losers lost from £50 to more than £250.

The NUS and the Union of Students

Equal funding demand for college

by Felicity Jones

The Association of Metropolitan Authorities is to make representations to the Department of Education and Science following complaints to Sheffield education authority of funding of the Northern College should be put on the same footing as other residential adult education centres.

Northern College receives a Blue grant from the DES which is amounting to £52,000, whereas the residential colleges received a £42 grant which met the shortfall between income and expenditure.

The most recent of the colleges established, Northern was founded in 1977 and its affairs are vested in a charitable company composed of four immediate South Yorkshire education authorities of Sheffield, Barnsley, Rotherham and Doncaster. Unusually, these act as guarantors, authorities, underwriting the college's financial affairs.

The DES wants the college to accept eligible applicants for one or two-year courses from anywhere in the country. In principle this means that the local authorities sponsor places for students from Yorkshire and the surrounding areas as well as subsidising students from those parts of the country where the local authorities refuse to provide discretionary grants.

Mr Bob Fryer, the principal of the college, said that the average cost to the local authorities of meeting the college's deficit was £400,000. "This is a very generous subsidy at a time when the education authorities are hard-pressed to meet other commitments," he said.

The DES grant compares unfavourably with other residential colleges. Fircroft College was given a £161,000 grant last year towards a deficit of £173,000 and is much smaller in student numbers.

Northern College is in the process of drawing up its long-term academic plan through internal discussion and preliminary talks with HM inspectors. A DES group of visiting senior academics is also scheduled to visit and discuss the proposals.

Call for pledge on life after Alvey

by Jon Turney
Science Correspondent

Universities and companies involved in the Alvey programme for computer research are urging the Government to act now to guarantee the work will go on after the first five years' money runs out.

Speakers at the Alvey review conference in Edinburgh University last week stressed that all the money would be committed in the next few months, even though the programme has two and a half years to run.

Professor Eric Ash of University College, London, chairman of a Science and Engineering Research Council committee set up to plan life after Alvey, said: "If nothing is done within a few months we may face a situation where there is no more funding for some information technology projects for two years."

The Alvey programme was launched in 1981 with £250 million of government money allocated from the existing budgets of the Ministry of Defence and the Departments of Trade and Industry and Education and Science over five years. Another £100 million comes from industry, joining the effort to develop more intelligent computers, and keep up with overseas competition in information technology.

Professor Ash said in Edinburgh the programme had been highly successful so far. He said Alvey was the biggest single step so far in bringing about university-industry collaboration. Mr Philip Hughes, director of the software company Logica, said it was nonsense to talk of the programme finishing, and he called for full funding of industrial research in the next phase, in contrast to the 50 per cent of existing Government backing.

Sir Robert Telford, chairman of the Alvey steering group, said there would clearly be unfinished business in several Alvey research areas, including

computer architectures and intelligent systems. He added there might be new technologies which should come into a new programme after Alvey.

Mr Colin Fielding, director of the Ministry of Defence's research establishments, said he wanted to hang on to the collaborative spirit of Alvey by continuing to work with other government departments. He said the MoD had been on the verge of setting up its own new computer research programme when the Alvey proposals first surfaced. It had to come up with a "most of these are already civil and military objectives can be met from common technologies".

Mr Geoffrey Patten, minister for information technology in the Department of Trade and Industry, said industry could not expect that government support would necessarily continue in its current form. In some areas, Alvey's pump-priming function would be complete, and it might be possible to include new ones. He was also concerned to see more emphasis on getting the new technologies into industry.

Mr Patten said he hoped to see an industry working group to be set up shortly, with representatives from the SERC side and government departments. On the academic side, Professor Ash's committee will hold a meeting for researchers in the autumn and make recommendations by the end of the year. The other members of this SERC committee are Lord Gregson, Dr Cyril Hilsam of GEC, Professor Roger Needham of Cambridge University and Dr David Thomas, the Alvey director.

The most likely candidate for an addition to the original Alvey list of research areas is the developing work on microelectronics. This was the subject of a smaller programme set up before Alvey, the Joint Opto-Electronics Research Scheme, and is an area which has begun to attract stronger interest.

Pay case sparks union row

by David Jobbins

The effectiveness of teacher representatives on local education authorities has been severely undermined following a lecturer's conviction for failing to declare a pecuniary interest.

Urgent talks on the case, which hinged on whether the lecturer should part in a debate on a grading dispute at his college, are to be sought with the Department of Education and Science.

The union involved, the National Association of Teachers in Further and Higher Education, is virtually certain to appeal against the conviction. But if it cannot achieve satisfactory guarantees for its teacher representative members, the union may withdraw them.

Mr Kevin Whitson, a Lecturer 1 at Solihull College of Technology, was prosecuted under the 1972 Local Government Act after he failed to declare an interest when the education committee discussed a dispute over grading in his college. He denied the charge.

The prosecution alleged he had been warned he might have to declare a pecuniary interest because he could possibly become one of the lecturers involved in the upgrading. But Mr Whitson, who took advice from Natfhe's lawyers, refused to declare an interest because this would have barred him from the discussion and subsequent vote.

Natfhe negotiating secretary, Mr David Triesman, said the decision made it difficult for teacher representatives to operate properly.

"At the moment, we believe teacher representatives should carry on despite the fact it must be acknowledged that we cannot guarantee almost anything they say will not be regarded as illegal."



Sir Peter Swinnerton-Dyer, chairman of the University Grants Committee, checks out a book for a student at Newcastle University before inaugurating a new library system. Sir Peter was in Newcastle to chair a meeting of the British Library's advisory committee on research and development.

Factory technology centre backed by joint effort

Salford University and the University of Manchester Institute of Science and Technology came together this week to launch a new Advanced Manufacturing Technology Centre, planned at the request of the Machine Tool Industry Research Association.

The new centre, which expects to receive backing from the Science and Engineering Research Council and the Department of Trade and Industry, will make the North-West a major focus for research and training in new techniques of factory automation. It will be based on the two campuses, but will also have access to equipment from the Macclesfield-based research association.

The MTIRA is anxious to become identified with computer-controlled manufacturing systems, and will shortly change its name to the Advanced Manufacturing Technology Research Institute. It was one of the industrial research associations criticized in a recent report from the Advisory Council for Applied Research and Development for poor links with academic research.

One of these, at Imperial College, London, links the college's department of chemical engineering with six other institutions which teach advanced process control. IBM have supplied computer equipment and programs for students to control Imperial's pilot chemical plants.

The second new IBM scheme is based at Manchester Business School. A new computer system will be used for the school's masters in business administration, and eventually to develop a new computer-based curriculum for future managers.

Full funding for the centre has not yet been agreed, but it will rely in part on support from firms buying into research clubs, and paying for specialized training in advanced manufacturing techniques.

A further development signalling closer links between universities and industry this week was the announcement of two new initiatives under the umbrella of the IBM Institute, under which IBM UK gives equipment and support in selected higher education institutions.

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Colin Welland is standing in front of one of Britain's major gas pipelines. Gas provides getting on for sixty per cent of all the heat used in British homes - and the way all that energy is transported about the countryside is one of the reasons why Colin is keen on gas. Because gas is delivered direct to Britain's homes and factories through a network of over 150,000 miles of hidden, underground

pipes - no lorries, trains or tankers needed, and no pylons to spoil the view. But the fact that it goes underground isn't the only beauty of gas. It's also the cleanest of fuels to burn. Which helps to keep the air purer. So it's not just gas customers who benefit. Britain benefits because people prefer gas.



Library stalls over computer

by Patricia Santinelli

The British Library board has surprisingly drawn back from making a final decision on whether it should hand over the computerization of its world-famous 10 million book catalogue to a private company.

Instead the board decided to enter into detailed negotiations with Carrollton Press, a British subsidiary of the International Thomson Organization, which has already undertaken a trial run computerization of the catalogue.

According to the Institute of Professional Civil Servants which opposes the loss of in-house computerization—a system is up and running at a cost of £2 million—the trial run had disastrous results because much of the catalogue is in unfamiliar languages, both ancient and modern, and Carrollton's keyboard operators are untrained and inexperienced in this kind of work.

The IPCS says that the trial run described Hungarian books as Turkish, made mistakes in the Cyrillic, Greek and Hebrew entries and got on in 34 shell marks wrong. At this rate, it claims 294,000 volumes would become difficult or impossible to retrieve.

The IPCS also argues that the British Library would lose the chance of making profits of up to £12 million by 1995 if it hands over the electronic cataloguing to Carrollton. The only apparent reason for the library's decision must be an ideological pursuance of Government policy on privatization and on the reduction of staffing, the institute says.

It will continue to fight the proposed handover and is currently discussing with members of both the Lords and the Commons what effective Parliamentary initiative can be taken.

But the British Library argues that the project is very large; that Carrollton is the only firm which has the experience, having completed a similar project for the US Library of Congress. It stresses too that this would not be its only association with a private company; it has a joint project with Chadwyck-Healey and K. G. Saur.

A British Library spokesman said it had not ruled out other companies if Carrollton did not produce a plan which would fit the library's needs. For example, it was quite likely that computerization of the book catalogue would need to be linked to an automatic delivery book service when the library moves to its St Pancras site in 1991.

The library is also intent on protecting its marketing rights and any spin-off that might result from the computerization of its catalogue, but says that there is no evidence for the £12 million figure produced by the IPCS.

Three-quarters of the parliamentary Labour Party went up to Chesterfield for Tony Benn's by-election campaign last year — "to establish their ability that they had been present at the scene of the crime" as one of my colleagues put it at the time. But, quite apart from duty and the earning of Brownie points, I positively enjoy my visits to by-election campaigns. For one thing, I'm never the candidate; for another I get the opportunity to test my own gut feeling of the likely outcome against the real result on polling day.

Canvassing — or at least the formal answers one receives to the tired old question "May we count on your support?" — is no picnic. It's not what they say when they answer, it's where they look. If it's across towards the door post, or down towards my feet, they're lying.

"People complain about politicians breaking their pledges to the electorate, but the real mendacity is the other way," was the remark of another member of the Shadow Cabinet after a day on the stump in Brecon. "Our deceit is nothing compared to the number of voters who break their solemn pledges to the politicians who canvassed them."

"He was right. This time last year I spent a whole day in Portsmouth

Students drop the New Deal

by David Jobbins

The National Union of Students is to drop its ambitious New Deal campaign, which was launched barely 18 months ago.

But NUS leaders insist they have succeeded in bringing the campaign's linked aims of "independence, choice and standards" to the political agenda and that it is not being abandoned as a flop.

Instead they are to return to the political arena and try to restore what president Phil Woolas openly admits is the union's flagging credibility in the educational debate with a series of initiatives sustained by a new development strategy.

Mr Woolas is to announce the outline of the new strategy to university and polytechnic union presidents during the NUS summer convention and training school at Warwick next week.

"The New Deal campaign is finished," he said. "We feel the success has been the acceptance by large numbers of people and organizations of the principles outlined in it. We have made headway on the principles we promoted."

The New Deal was hatched at the 1983 Christmas conference, initially for one year, and was the focal point for extending NUS action from the key issues of grants to include other financial matters, housing, academic standards and employment.

"We feel very strongly we should capitalize on the strategy we pursued last year, with the success we had, but that this should be done in the context of a local strategy revolving around the target 200 Conservative MPs we need to win over to oppose loans and secure increased grants," Mr Woolas said.

The union is to build up its patchy area organization, particularly in the shire counties where it has traditionally been weakest, and improve the links

with the central operation.

Its communications budget is also to be boosted from £10,000 to £40,000, new technology introduced to improve the flow of information to affiliated unions, and the drive in the further education area continued.

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College to bid for own degrees

Napier College of Technology Edinburgh is to bid to award its degrees.

Napier, Scotland's fifth largest education institution, has welcomed the recent Lindop report on "validation" for self validation of institutions are accepted, it will apply.

It says it has benefited considerably through its 21-year history of cooperation with the Council for Academic Awards in developing and interdisciplinary courses but that "a greater devolution of powers is now appropriate."

It disagrees with Lindop's view that the CNAAs pays disproportionate attention to structure and content during its review visits, but says that current validation procedures are costly both in terms of staff preparation time and producing documents.

Napier praises Lindop's proposals for a range of different forms of validation, since this "seriously reflects a variety of needs of different institutions." It is vital the colleges should be able to apply for a change of status to their experience and educational provision evolve.

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On the side of science

by Peter Aspdren

Appeals to the Advisory, Conciliation and Arbitration Service, talks about talks and putting a carrier bag over your head to avoid swarming reporters could become quaint items of industrial relations history if an attempt by researchers at Brunel University to bring arbitration into the technological age catches on.

Mr Jimmy Algie and Mr William Foster, co-directors of the university's management decision programme, have devised a computerized "priority decision system" (PDS) which tries to take all the pain out of industrial conflicts and emerge with an independent solution.

Leaders of management and trade unions will not even have to meet in the initial stages of a dispute — they just feed in their views and the system calculates the best achievable joint resolutions of the issue at hand. A range of options then forms the basis of any subsequent negotiations.

The two researchers have been working for the last six years on the use of computer models in decision-making and resource allocation in industry.

"We started by using the system for management problems, but then got into industrial relations by accident," said Mr Algie. "One of the firms we were dealing with used the system during a minor dispute to make its own negotiating stance more coherent and clear."

"Then we offered it to some unions not involved in that dispute, who were more sceptical, but then found it quite helpful themselves." He said the system had already been used in about 10 disputes.

"One of the great problems in so many disputes is that both sides see things in black and white, and do not admit to any scale of degrees. Because of their stance, it is not possible to discuss any different options in meetings, which is where the system can come in."

Mr Algie said the recent miners' dispute was a good example of how the PDS could have broken the stalemate.

"In fact, we met NUM and NCB leaders secretly and they used the system during the last days of the strike. They may have regarded the system as a negotiating aid rather than a conflict resolver, but it did come up with the most mutually acceptable package," he said.

He said the views of several moderate and hard-line representatives of both sides were fed into the system and given priority weighting. On the issue of pit closures, for example, the system came up with the following recommendations:

- Immediate steps — one year moratorium on closures and external review of disputed pits by secondary arbitration;
- Medium term steps — closure of some disputed pits on stricter safety/geological/exhaustion criteria; the phased two/three year closure of some pits; mothballing of some pits;
- Long term steps — eventual NCB veto on some pit decisions.

The Johnson Matthey affair illustrates this to perfection: the private bank nationalized one September afternoon for £1 but without any clear idea of the liabilities which would then be taken on and the £134 million of public money not committed to the rescue add up to a simply unbelievable tale of incompetence by the Bank of England in failing to supervise the banking sector and by Chancellor Nigel Lawson in failing to supervise the Bank.

Above all, the affair exposes a warped set of values — the starvation of the health service, the strangling of universities' finance — but largesse for the Tory Party's friends. Whatever the outcome at Brecon, it is a message that will not go away.

Jack Straw

The author is Labour MP for Blackburn

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Oxford University's latest honorary graduates leave the Sheldonian on their way to All Souls after last week's Encaenia, the annual degree pageant. Among those honoured were Signor Sandro Pertini, President of Italy, and Lord Flowers, outgoing rector of Imperial College, London.

Industry fears for the basics

by Jon Turney
Science Correspondent

British industrialists are worried that academic research is being driven too far toward short-term, applied goals at the expense of basic work, according to the Harwell Laboratory of the UK Atomic Energy Authority.

Harwell researchers also found that while many in industry were ready to criticize university research, few were doing anything to support the kind of work they wanted in academe.

"The overall impression was of organizations trying to have the maximum influence over programmes and priorities with the minimum of direct expenditure," their report says.

The Harwell study was carried out by the laboratory's business development group with the Oxford Centre for Management Studies. The laboratory

relied heavily on contract research from industry, and so needs to keep track of industrial views of research needs.

The team which produced the report interviewed more than 100 senior research and development executives in industry in late 1983 and early 1984. Many managers stressed they were interested in university research, but did not want colleges to turn to more applied work — where the academics had less interest and expertise.

Some firms said they wanted to fund more basic research in outside laboratories and did not get enough high-quality proposals in the areas they wanted.

The report says that there is a need to integrate academic research into streams of orientated basic research tailored to industrial needs. But few firms were spending much money to help change academic priorities.

The industrialists were also highly critical of the Government's role as a customer or proxy customer for research, particularly through departmental requirements boards. And they saw little role for departmental research establishments in revitalizing industrial research and development.

"The report concludes that there is no simple way of improving relations between academic and industrial researchers, although the authors comment that the use of industrial liaison officers in universities has widespread appeal. They stress that those interviewed wanted all researchers to play a role in such liaison, rather than leaving the "gatekeeping" role to one person in each institution.

Industrial R&D into the 1990s, Balint Bodrogy, Paul Jervis, John Montague, UKAEA, Harwell.

Regions are to be approached for their support on the issue with the promise that they may be exempted from sanctions in exchange. Balloting is due to be completed by July 19.

Possible retaliation was being discussed this week by the officials, who belong to the Association of Scientific, Technical and Managerial Staffs.

Stops include instructing members not to attend the TUC to service the delegation, which will now consist of lay members and general secretary Mr Peter Dawson.

In the past officials have attended the TUC, often taking leave to do so, to back up delegates but have been hampered by not having full delegate status.

There was a majority of barely half-a-dozen to reject the executive recommendation, which was itself opposed by some executive members.

Union split by sanctions in delegate row

by David Jobbins

A bitter internal dispute may damage the effectiveness of the college lecturers' union at this year's Trades Union Congress following a decision to exclude officials from its delegation.

Officials are furious that an executive recommendation for the National Association of Teachers in Further and Higher Education's 15-strong delegation to include at least three officials was overturned by the union's national council at the weekend.

Now officials represented by the Association of Managerial, Scientific and Technical Staffs are to be balloted on sanctions which if accepted will have a dramatic effect on the union's ability to mount an effective presence at the TUC.

The sanctions were drawn up at a meeting attended by



Where Sir Keith fails in logic

The Secretary of State is biffing his own tail. It will not protect him from the danger of being swallowed up by the illogicality of his own statements. In evidence to the Commons Select Committee on Education, Science and the Arts last week he said that if his better schools policy had an effect over the years then more people would qualify for and feel keen to participate in higher education. In the Green Paper on higher education he opted for the lowest possible level of assumed demand for higher education by the end of the generous 10 years he has given for the impact of his better schools policy to be felt. So even if he is right about better schools, he will not have provided the places to meet the expected demand. Illogical.

He is worried about the lack of qualified teachers of science in schools but fails to provide the equipment or the career prospects or the pay expectations in the teaching profession that will attract good minds. They go elsewhere. So there are fewer pupils studying science in schools to fill the places he hopes to create by his "switch" from arts to science. The obvious result of that will simply be greater competition for fewer arts places. Illogical.

He also told the select committee that he was worried about the new science brain drain: in the Green Paper he says: "It is vital for higher education to contribute more effectively to the improvement of the performance of the economy." Yet in its latest report the Advisory Board for the Research Councils warned the Government bluntly that cuts in funding have meant a 10 per cent reduction in volume of research activity during the 1980s and that it has not been possible to protect high priority work. Illogical.

We are losing opportunities to encourage increasing numbers of students into higher education to improve the overall level of education. We are losing people who will educate our children in the new technologies. We are losing research that will benefit the economy and industry. It is not just illogical, it is also shortsighted economic stupidity. The Americans will not make the same mistake. "In the long run an academic brain drain is devastating for universities and industry alike, because universities simply won't have enough faculty to teach students, particularly in the fastest moving areas of science and engineering. And without newly trained talent, industrial technology will surely dry up." This is not the American Council for Education or its ilk. It is the Office of Science Technology Policy in the Executive Office of the President of the United States. What price our Government Think Tank?

The Secretary of State wants industry to foot the bill. He opts out of any responsibility for his lack of logic and lack of investment. His political philosophy is that the role of government should be limited.

Perhaps he should listen again to President Reagan's OSTP: "Government has a responsibility to help our colleges and universities create an environment for attracting and retaining faculty of the highest quality. That means improving the climate for research on campus so that ambitious scientists and engineers won't feel compelled to take jobs in industry if they want to be competitive in research."

Diana Warwick

The author is general secretary of the Association of University Teachers.

MPs fail to shake SED defence

by Olga Wojtus
Scottish Correspondent

Those who expected the influential Commons Public Accounts Committee to tear the secretary of the Scottish Education Department limb from limb have had something of a disappointment.

Mr James Scott, less than a year after his appointment, fielded questions on the SED's running of its colleges with polite dexterity. He gently suggested that the report by the Comptroller and Auditor General, which sparked off the committee's interrogation, might not fully have appreciated the Scottish dimension of the colleges of education. When MPs became querulous, and began asking questions posed already, Mr Scott courteously repeated his answer.

Conservative MP Mr Michael Latham (Rutland and Melton) asked if the SED was concerned by the report, which highlights considerable surplus accommodation in the education colleges, and fears that the central institutions may conversely suffer from too few resources.

The report endorsed the SED's funding procedures, said Mr Scott, and when the Comptroller and Auditor General said he was reasonably satisfied, he took that to be an expression of extravagant praise. "I welcome the report," he concluded.

"I didn't ask if you welcomed the

report, I asked if you were concerned about it," snapped Mr Latham. Mr Scott replied that he was concerned the SED should follow up "various areas of action" mentioned, but he was not concerned by the report itself.

The SED had recently tried to reduce spare capacity in the education colleges by closing two, and merging two others, he said. "We recognize that even after that there is spare capacity, but we've been hesitant to undertake any future rationalization until the report from the Scottish Tertiary Education Advisory Council."

STEAC, which was unlikely to report before the next parliamentary session, was reviewing the relationship between the higher education sectors, and nobody could anticipate what its recommendations would be, said Mr Scott.

It might recommend that the education colleges merge with university education departments or that their remit be broadened from their present monotechnic role. If STEAC did not recommend a change in the colleges' role, "that in itself clears the way on decisions on rationalization," Mr Scott added.

But he stressed that the SED saw advantages in maintaining a regional spread of colleges. He agreed with SDP MP Mr Robert MacLennan (Caitness and Sutherland) that it would be quite possible to centralize teacher training, but questioned its desirability.

Regional institutions saved time and money on inservice training, students grants were cheaper if students lived at home, and there were also strong arguments of "sentiment and affinity". The report alluded to a recommendation from STEAC's predecessor that the distinction between education colleges and central institutions be blurred, said Mr Scott, but this did not recommend mergers but similar governing bodies. Again, the SED would make no formal move until STEAC had advised on the future relationship of the two sectors.

The committee did not question Mr Scott about Dundee College of Education, singled out in the report as having considerable spare capacity. But the committee's chairman, Labour MP Mr Robert Sheldon (Aberdeen-under-Lyne), commenting on the apparent lack of accommodation in central institutions, asked whether the SED could not do more to create space by reordering priorities between courses.

Mr Scott said there had been limited moves to cut back on courses, for example, the curtailing of social science courses at Paisley College of Technology. But overall there was no evidence that central institutions graduates were having difficulty in finding jobs. Cutting courses would "fly in the face of the principle which is very strongly adhered to by this government and previous governments of access to higher education by those qualified and able to benefit from it."

A tale of varying accounts

by Peter Aspdin

University accounts vary so widely that it can be virtually impossible to extract meaningful information from them, claims a group of accountants.

The accountants, from Deloitte Haskins and Sells, say that universities published accounts differ in the manner in which they present certain key elements and the accounting principles they employ.

Mr Charles Silcock and Mr David Williams, from the company, say their claim in a discussion paper, "The manner in which universities can provide more financial information to scrutiny than the minimum legal requirement."

At present, universities are required to provide the University Grants Committee with audited information on income and expenditure. The rest of the information an individual institution has to give is whatever is stipulated in its own charter.

Mr Silcock said: "Basically there is no one way of doing it. With a normal company, everything has to go through a profit and loss account but that is not the case at universities. There are all kinds of figures which can 'round the back'."

Universities should include in their statements a treasury report, a cash statement and information relating to self-financing and commercial activities, which are becoming an increasingly common feature in university life.

The report states that income and expenditure accounts are practically meaningless because of the exclusion of certain activities, arbitrary transfers to provisions and reserves and the use of reserve accounting, where reserves are earmarked for particular purposes even though they are not absolutely committed.

Land and buildings are another controversial area in accounting, with arguments over whether they should be regarded as assets, and whether depreciation should be accounted for.

The Committee of Vice-Chancellors and Principals recently issued a set of guidelines which tried to standardize some accounting practices, but the accounts report says the guidelines do little more than state the existing alternatives.

The report concludes: "While the situation persists, differences in university accounting practices are certain to continue, and auditors will have no official backing for trying to introduce changes."

"If the auditors cannot enforce changes on universities, and the differing practices are allowed to continue, it is likely that auditors will be criticised for accepting different practices from their university clients."

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US students press for Soviet boycott

from William Norris

WASHINGTON

It had to happen. After all the furor about the divestment of American university funds from companies which do business in South Africa, the right wing of campus politics has come swinging back with a campaign to stop investment in firms which trade with the Soviet Union.

The Young Conservative Foundation, a Washington-based group, is trying to mobilize students on 100 campuses to protest against investments in such companies which, it claims, "are marketing for a few pennies the values of the free world."

The president of the foundation, David Finzer, denies that the campaign is a reaction to the anti-apartheid protests and claims that it was planned before they ever took place.

"It was a conscious decision on our part to move away from the more

traditional conservative approaches, which are just to complain about everything and always react to someone else's offensive," he said.

However, he added that the protesters were trying to destroy the Reagan presidency and were undoubtedly being organized by the KGB - an allegation which brought angry denials from Joshua Nessen, student coordinator for the American Committee on Africa.

"That's an outrageous statement that seems to cover up the fact that the United States is investing heavily in South Africa," Mr Nessen said. "The thing that has fuelled people's anger is the Reagan administration's support of South Africa through constructive engagement."

The whole scene is warming up nicely, with the college Republican national committee joining in and pledging its support to any move which would take the offensive and divert

OVERSEAS NEWS

attention away from protests about companies dealing with South Africa. "What the left is saying about South Africa, we're going to say about what the Soviets are doing," said the committee's president, David Miner.

With some ignominy, Mr Finzer found an acronym for his campaign, calling it "Save The Oppressed People" - or STOP.

The first shot was fired in March, when a Rhode Island high school student boycotted a banquet staged by the company which had sponsored her junior achievement award. Joan McInerney protested that the company, Textron Inc, sold its goods to Soviet-bloc countries. "We have to stop trading the long-term security of this country for short-term profits," she said. "Right now we're giving the Soviet the rope to hang us. And while they're doing that, they're also hanging their own people."

Miss McInerney plans to take her campaign to the Catholic University of America, where she will be a freshman in September. Her indignation has not, however, extended to refusing her award.

The foundation has financed a group of students at the University of California to stage a protest rally and to stage a sit-in at the office of a California assemblyman who refused to sign their petition.

But these are early days. Mr Finzer acknowledges that nothing much will happen on the divestment front until the issue gets a great deal of publicity. Which has not happened yet. "This will sensitize the public to the fact that there is an evil empire out there," he told a conference of college Republicans last week.

Evil empire? Perhaps Mr Finzer should consult with higher authority. That phrase disappeared from Mr Reagan's lexicon some time ago.

Scientific autonomy assured

from Barbara Von Ow

MUNICH The autonomy of West German science and research was reaffirmed by the Kohl government at the annual conference of the Max Planck Society earlier this month.

Addressing the meeting in Nuremberg, federal research minister Heinz Riesenhuber said the state's duty was confined to developing an autonomous and dynamic framework for science. In this respect it was the state's main task to ensure the financial independence of research, the minister told delegates of the prestigious society, which employs over 10,000 people in its research institutes.

He said he hoped that "adequate" funds would be made available to the Max Planck Society - the successor to the Kaiser Wilhelm Society founded in Berlin in 1911 - in the 1986 budget.

The share of funds channelled into basic research had risen from 27 per cent in 1982 to 34 per cent in the ministry's budget this year, mainly in areas involving cooperation with universities.

By international standards, West Germany was in a leading position, with 7.7 per cent of its gross national product being spent on research. But this was no reason to celebrate as long as only 8 per cent of the world's scientific staff worked in West Germany - compared to 45 per cent in the United States and 25 per cent in Japan.

Riesenhuber said the role of basic research, as done at the Max Planck Institute, was not directed towards short-term economic or technical objectives.

The application of scientific findings worked through a natural dialogue between science and industry rather than through state-controlled technology transfer, he noted. This dynamic interaction was the most important guarantee for ensuring the competitiveness of German technology.

Referring to the government's controversial plans to increase the use of "third money" at German universities, the minister dismissed concern about a possible sell-out of higher education to industry. So far, he noted, less than 2 per cent of investment in research came from private channels.

Riesenhuber said the danger was not so much a loss of freedom for research as possible delays in the transfer of scientific knowledge, particularly in view of the increasingly supranational role of science. Calling on scientists to assume their responsibilities for providing answers for the long-term development of human society, the minister also appealed to the Max Planck directors to do everything to ensure better job prospects.

Professor Heinz Stark, the society's president, underlined that there had rarely been such complete understanding between science and politics as now.

He warned, however, that national research projects should not be sacrificed to West Germany's international commitment. Projects such as the US Strategic Defense Initiative or France's civilian "Eureka" research scheme should not be allowed to swallow medical research projects.

Universities censured by academics

Four colleges and universities have been added to the American Association of University Professors' censure list for violations of academic freedom. This brings the number of institutions now on the list to a record total of 50.

The latest to incur the professors' displeasure are Oklahoma College of Osteopathic Medicine and Surgery, Southwestern Adventist College, Temple University and Westminster College of Salt Lake City.

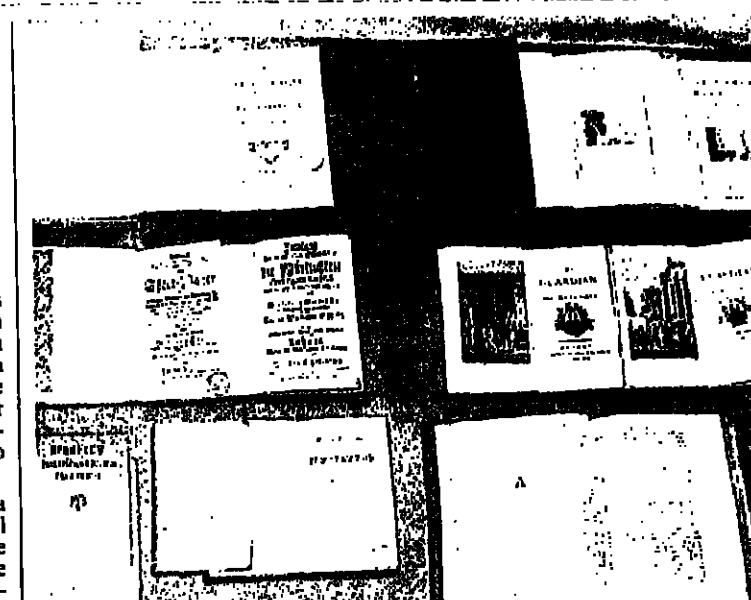
The biggest row has been at Temple, a Philadelphia university which has more than 30,000 graduate and undergraduate students spread between seven campuses. Temple, which is controlled by an independent self-perpetuating board of trustees, is unusual in that it gets support from both public and private funds. Its faculty are paid substantially more than the national average.

The university has been on the AAUP censure list since 1966, from "third money" at German universities, the minister dismissed concern about a possible sell-out of higher education to industry. So far, he noted, less than 2 per cent of investment in research came from private channels.

The local AAUP chapter appealed against the dismissals and went to arbitration. It lost.

At the AAUP annual meeting in Washington, which voted to put Temple on the censure list, Michael G. Harris, associate professor of history at the university, said: "Four faculty members were let go - kicked out - without any definition of the terms. They were not given a hearing. They were let go from work when there was plenty of work to do. We have been hoodwinked by a bloody-minded administration."

But the university is unrepentant. Its president, Peter J. Liacouras, said after the censure motion: "We deeply regret this attempt by the faculty labour union to undermine the rule of law. Apparently the AAUP believes the rules of collective bargaining and labour law apply to everyone but itself."



A remarkable exhibition commemorating the tricentenary of the birth of the philosopher Bishop George Berkeley has been on show at one of the oldest universities in the Soviet Union - 77 years after Lenin first published a scathing attack on the "arch-empiricist" and "idealist". The exhibition was held at the University of Tartu in Estonia which was founded in 1632 by decree after the death of King Gustavus Adolphus I of Sweden. The university has always boasted a lively philosophy department and has developed a strong interest in western philosophy. It even possesses some of the early manuscripts of Immanuel Kant. The exhibition included works by Berkeley in German and Russian as well as English.

Switch to safer nuclear fuels

Twenty-three United States universities, which currently use weapons-grade uranium in their nuclear research reactors, are going to have to convert the devices to a less enriched form of the fuel.

The Nuclear Regulatory Commission, after agonizing over the subject for the past year, has overruled a staff recommendation and decided that the risk of theft by terrorist organizations is too great.

In the meantime, the colleges will be required to transfer all highly enriched uranium not being used by on-campus research reactors to departments of energy facilities, which are considered to have better safeguards.

Some 20 kilograms of the material is currently stored, unused, near uni-

versity reactors. As little as one kilogram could form the basis of a bomb.

"What we're trying to say is that this stuff is an attractive target and we want it out of the reactors," said James K. Asselstine, a member of the commission.

The universities concerned are worried - not so much by the loss of conversion, some \$12 million, which will probably be met by the government, but by the fact that the reactors will have to be relicensed in their new form.

Some universities may be granted exemptions to the new rule if they can show that the use of highly enriched uranium is essential to their research programme, or if the reactor can accept no other kind of fuel.

Young Australians 'need education voucher system'

from Geoff Maslen

MELBOURNE After the age of 15, young Australians should be given a six-year "certificate of entitlement", an education grade voucher to be used at will in institutions of their own choice, according to Dr Don Edgar, the director of the Australian Institute of family studies.

Dr Edgar told a national forum in Melbourne the voucher would produce a healthy competition for enrolments, undermine the "entrenched masters of boredom in our schools, colleges and universities" and do more for curriculum reform than all the conferences and extra reforms the Australian community had suffered from in recent years.

He said young people could cash in their vouchers when they wished, "dropping out" would not doom them to incompetence and they could drop back in when they needed to upgrade their education.

"The lock-step, lock-out mentality of our education system must be broken and the senior end of secondary schooling is a good place to start," Dr Edgar said.

In an address on poverty and its impact on children's life chances, Dr Edgar told the forum the institute had estimated there were more than 750,000 children in Australia living in families with incomes below the poverty line.

There had been a significant increase in recent years in the number of

such families and this was intolerable in a country which failed to collect billions of dollars "through a leaky and badly-written taxation system."

"We must stop telling horror stories (about children in poverty) and start detailing the need for a war on the poverty of spirit that results from being condemned to life on the bare minimum," Dr Edgar said.

He said Australia had seemed to have forgotten, or ignored, the importance of early childhood development. This was a national disgrace because it condemned thousands of children to disadvantage from the start of life. Two-thirds of a child's potential intelligence developed before the age of six; parental care, (time spent reading to and with children, explaining,

stimulating, all made a huge difference to later competence).

Yet many parents could not provide such things as books, toys or stimulating play because they either did not have the money or were unaware of their importance.

Dr Edgar said there was a need for parent education and for well-designed materials on parenting. "The whole family, indeed the whole community, should be enlisted in the task of attacking educational disadvantage," he said. "It's not much use trying to change the child's way of thinking or behaviour if family and community processes do not change as well, or at least understand and respond in sympathy with the school's good efforts."



Top table: Lancashire Polytechnic student Simon Price, 20, with the dining table he designed and built for the polytechnic's final year show tomorrow.

More cash urged for London's special needs policy

Fresh capital resources, even if incompatible with Government policy, would be required to implement radical changes proposed in a major report on special education, Mrs Frances Morrell, leader of the Inner London Education Authority, said this week.

Mrs Morrell was launching the report *Equal Opportunities for all* which proposes the desegregation of

children and young people with special needs from separate establishments and their reintegration into the "normal" education system.

She said: "Fresh capital resources are involved, but I don't think that they can be found from existing structures."

But Mrs Morrell made it clear that implementation of the report, the

result of a 10-month independent inquiry chaired by Mr John Fish, a former member of Her Majesty's Inspectorate in special education, would take some time.

The report's recommendations would require lengthy consultation and implementation would be unlikely to be before the next ILEA elections in May - it could be within a year of this.

It adds that no "special" colleges should be designated and that services should be made available within all further education colleges. The report also wants resources allocated to a system which enables quick and effective support to be given to individuals with special education needs on general courses.

Moreover, it recommends that the authority appoint a further education inspector to be responsible for special needs work in colleges and adult education institutes.

It suggests too that a standing advisory committee for special educational needs in further education be set up and reviewed after five years.

Equal Opportunities for All is available from August 1 from the Order Processing Department, ILEA Centre for Learning Resources, 275 Kenning Lane, London SE11 5QZ. ILEA employees £5.50, others £8.80.

work College, told a conference organized by Natfhe this week that to deny young people with special needs full-time college education was to impose a lifelong handicap.

A number of education authorities had so far failed to respond significantly to disability and special learning needs among 16 to 19-year-olds and adults. They should aim to adopt explicit admission and support procedures, provide a "catch" position with "teeth, muscle and time" to negotiate for a student's particular needs, and provide a gateway to opportunities within the mainstream education system.

"Within the post-school education

Learning Needs: A Guide to Good Practice in Further and Higher Education, Natfhe, Hamilton House, Mableton Place, London WC1H 9EP.

Entrance exam is abolished

from Lindsay Wright

WELLINGTON
New Zealand's university entrance examination will be abolished next year and secondary school students will instead receive only the long established sixth-form certificate.

That certificate has been awarded nationally since 1968 on the basis of internal examinations conducted by each school.

Abolition of the university entrance exam follows a decade of campaigning by secondary school teachers who argued that while the exam, administered by the Universities Entrance Board, dominated the sixth form curriculum only a quarter of sixth formers went on to university.

The bulk of those who do go on to university do so from the seventh form: last year about 9,000 entered university from the seventh form; 2,000 with only sixth-form qualifications enrolled at university after a period away from school, and only about 800 entered directly from the sixth form.

The universities have wished to retain the option of entry direct from the sixth form and the Universities Entrance Board has adopted new procedures to enable this to happen.

Under authority delegated from the Universities Entrance Board each university will be able to grant provision entry based on the student's grades in the sixth-form certificate, the maturity of the student and the advice of the school principal.

The department of education has published the report of a committee of inquiry into the implications of abolishing the university entrance exam and is mounting a national promotional effort to make secondary school students, parents and employers aware of the sixth-form certificate.

Labour's minister of education, Mr Russell Marshall, has won praise for his willingness to tackle the examination issue - a striking contrast from the continuing teacher protests faced by his National Party predecessor, Mr Mary Wellington, who flatly refused to touch the examinations.

Cash pledged for expansion

from Barbara von Ow

MUNICH
Investments worth two billion marks will be channelled into higher education annually over the next four years, according to the West German government's latest "framework plan for university construction".

Submitting the plan for 1986 to 1989 earlier this month, education minister Dorothey Wilms said the federal and regional governments would each provide 50 per cent of the investment.

Federal funds which had been reduced to DM800 million in 1982, had now been raised to DM1.5 billion.

However, the minister left no doubt that the funds would not be used so much for creating additional university places as for the innovation and expansion of existing infrastructures.

The plan was to increase the existing number of 770,000 official university places - which currently accommodate more than 1.2 million students - to 820,000 by the end of the decade. The ultimate target, as set down by the Bonn and regional governments, of 850,000 places was still valid, the minister said, adding that she did not believe projections by the future governments would rise above 1.4 million.

At the same time she said the share of medicine in government investment had dropped from 50 per cent to about 30 per cent for the first time.

Another 27 per cent of the fund would be allocated to the natural sciences and engineering. Only 3.6 per cent would go into the humanities and 7.5 per cent into other subjects.

Another keynote of the new framework plan were the polytechnics, up to 190 per cent.

A degree more businesslike

from Christopher Follett

COPENHAGEN

Faced with diminishing employment prospects for arts graduates in the public sector, Denmark's five universities are to introduce new shorter degree courses better geared to the practical needs of private industry and commerce.

In essence the reform, instigated by Mr Bertel Haarder, the reformist Liberal minister of education in Denmark's ruling centre-right coalition government, will substitute the traditionally long university courses for arts students with a more flexible range of shorter "build-it-yourself" courses offering a wide range of ingredients in non-humanistic subjects on an arts base.

The new degrees will be more reminiscent of British BA (General) degrees, shorter than the existing German-style arts courses in Denmark, which take students on average between seven and 10 years to complete, all too often leaving them unemployed and debt-ridden.

Previous Danish university arts courses were accused of producing academics, rather than graduates suitable for the requirements of private industry, where ministry of education officials show arts graduates are gaining employment.

Draconian cuts in the public sector in Denmark in recent years have drastically reduced the job prospects of arts graduates, whose university

training traditionally led to state employment, as schoolteachers, university lecturers, librarians, sociologists, psychologists and social workers.

The falling birth rate has done away with the need for a major annual influx of new primary and secondary school-teachers and stagnation as regards employment in teaching has been supplemented by state and local authority austerity programmes in other sectors, further seriously restricting the job prospects of arts graduates, in particular females.

By contrast, science graduates face a brighter future in private, technology-orientated trades. It is estimated that 60 per cent of the 188,000 new graduates from long-duration degree courses in Danish universities are expected to produce between now and the end of the century would have found themselves stranded with degrees which only suited them for jobs in the dwindling public sector, had the reform not been introduced.

The reform lays down that with effect from the university year 1985/86, arts courses at Danish universities will be restricted to a maximum six years offering three different courses/de-grees.

An initial two-year basic course in a main subject will be supplemented by two (mainly), three or (maximum and rarely) four years in a "cocktail" of other subjects. Although the present titles of Danish university degrees will be retained, the new courses will be much more varied, comprising more

(not necessarily arts) subsidiary subjects. The Danish *cand. mag* and *mag. art* degrees correspond roughly to the British BA (Hons) and MA degrees.

The new degrees will allow a choice of study combinations for students making it possible for them after two years to supplement their basic/main subject with more practical studies. A four-year *cand. phil* degree course (which most students will take), will come to resemble a BA general degree with, say, a basic foreign language or history supplemented by economics, data programming or studies in business, communication or export trade, for example.

Chinese and Japanese are envisaged as elements of the new more business-orientated Danish arts degrees, as are non-compulsory school languages such as Russian, Spanish and Italian which can be taken to A level under the new system.

The reform has met with considerable criticism as it implies a systematisation and a tightening-up of the once so liberal Danish university arts studies and limits on state grants (and thus greater supervision).

The reform is to be accompanied by further major cuts in the intake of arts students by universities - in the case of the University of Copenhagen these cuts are around 20 per cent. The Danish government is to look into reforming the entire student grant/loan system this autumn to give students greater incentives to take the new courses.

... and a degree too long

from Donald Fields

HELSINKI

Finland's students are taking a two more years to obtain a degree than their forebears did a few years ago, according to a government-commissioned study comparing the academic year ending in 1973 and 1983.

The trend applies to virtually all disciplines, with the dramatic first-degree studies varying from a half year for agricultural and law degrees to nine and a half years for theology, six and a half for medicine and engineering, more than seven for social and philosophy studies.

Depending on specialist side-drop-out rates in the humanities between 4 and 33 per cent, in social sciences between 13 per cent and 35 per cent, and in the sciences between 10 per cent and 20 per cent. The extremes for social studies are in law (low) and technology (high).

As many as 40 per cent of law students and 24 per cent of science students have been enrolled for more than 10 years. The situation appears less acute in small, compact universities than large, fragmented ones.

Superficially, this reflects a lack of pattern in which many undergraduates work part-time to help fund their studies for want of student loans, with the overall situation strained in Denmark. Whether or not national economy would benefit the state were more generous to students and universities imposed time limits on degrees, has scarcely been debated.

In Finland's case, the report avoids speculating how much the trend has been influenced by a reform of degree courses, much criticized by professors. It prefers to refer to the extra workload in each subject, with a 40-hour week common, in a switch from lecture to seminars and tutorials.

The council considers degree "take absolutely too long" to obtain and suggests some easing in academic burden without, it feels, sacrificing standards. The Finnish degree is considered to be of higher quality than that in neighbouring Sweden, for example.

The very morning it ran the report Finland's largest newspaper, *Helsingin Sanomat*, carried a letter from Mr Matti Huuhtala, a self-styled independent representative of the Finnish Free Speech Association. He claimed that "tens of thousands of students and recent graduates" were disgusted with the apathy political parties were displaying towards their problems.

It is a sore point that while graduates have to pay large instalments of loans, Finnish MPs are currently planning to give themselves a pay increase of around 40 per cent.

This academic year, 30 per cent more Arab students enrolled at the Hebrew University in Jerusalem - taking the total number up to 1,000. It is still only a small percentage of the overall student population of 17,000 in what is one of the most prestigious of Israel's seven universities. But it is a trend towards more integration in higher education which is surprising in a country dominated by Arab-Israeli conflict.

Throughout Israel there are now well over 3,000 Arab students at university - inevitably Israeli citizens, many of them Muslim and a few Christians. The majority of them, another thousand or so are at Haifa Technion which specialises in science and technology, on the Mediterranean coast north of Tel Aviv in the heart of a traditional Arab area, while the rest form smaller groups in the other five universities.

When compared with 20 years ago, 5 per cent of the total student population of 60,000 or so is a lot - particularly when seen in the light of continued segregated primary and secondary education where there are schools for the Jews and others for the Arabs.

In Israel one out of six people is Arab. Many coexist with the Jews since they have been born into the state and according to the authorities accept the system and its values. But all the same, being an Arab student in Jerusalem is difficult. Few - either Arab or Jew - can forget the Six Day War in 1967 which brought the holy city under Israeli rule. All now live with the present conflict in the Lebanon colouring their feelings.

The Arab student not only has to cope with prejudice and hostility from some of his Jewish counterparts but also from other Arabs living in Jerusalem who have not thrown in their lot with Israel and still look towards Jordan and the other Arab countries.

Some critics say that Israel has a vested interest in maintaining segregation particularly in Jerusalem, yet the numbers of Arab students at the Hebrew University are increasing dramatically and its assistant dean, Shmuel Dahan, believes it is a trend which will continue. "In the past they've been part of a minority. Now they're becoming part of a big minority - and this must be one of the reasons for their willingness to come to the university."

Certainly the university - as one of the oldest in Israel with its 60th anniversary this year - has a good reputation, particularly in law, education, Arab literature and history of the Middle East - all popular subjects with Arab students.

In addition, there is now enough hostel accommodation for Arab stu-

Living to learn together



Sara Parker on Arab-Jewish integration in Israeli universities

Arab students at the David Yellin Teachers College in Jerusalem, one of Israel's most distinguished teacher training colleges



Such is the feeling among the Arabs in Jerusalem that even though the Israeli government tried to set up schools after the Six Day War along the same lines as elsewhere in the country, they had to abandon their initial initiatives 12 years ago in favour of the West Bank curriculum albeit with a special input of Israeli civics and Hebrew. The result is teaching which leads to Tawjihi - a qualification not recognized by Israeli universities, only by West Bank and Arab institutions.

The West Bank, under Israeli military rule, has six universities set up in the 1970s with nearly 11,000 students. The feeling of the 700,000 Arabs living in the occupied zone tends to be extremely political supporting various Arab factions such as the Palestine Liberation Organization, and this is reflected in repeated problems at the universities. Sir Zlot, set up as one of the first in 1973, now with some 2,400 students, has had violent clashes with the authorities leading to temporary closure of the university. The Israelis argue that there are still no guarantees for the safety of Jewish or Israeli visitors and that some students and faculty members show open support for the PLO. In the past there have been problems over work permits when some staff have refused to sign declarations that they will not support

such terrorist groups and there is still censorship of books such as an adaptation of Shakespeare's *Merchant of Venice* branded by the authorities as violently anti-semitic.

The feelings of the West Bank have spilled over into the Arab population who live in East Jerusalem where the Israelis decided to give into pressure for the West Bank curriculum to be adopted rather than losing total control of Arab education as more and more Arab children went to private schools.

Elsewhere in Israel, which has a total of 150,000 Arab pupils, the schools although segregated into Jewish and Arab have a curriculum leading to the Bagrut - the Israeli matriculation.

Head of the department dealing with Arab schools in the ministry of education and culture, Emanuel Koplovitz, explains: "The difference between the psychology of the Arabs in Yaffo (the old Arab port of Tel Aviv) and those in Jerusalem, is that those in Yaffo see themselves as fully fledged citizens of Israel except they don't serve in the army. But in East Jerusalem they don't know their future and they don't share the Israeli argument that Jerusalem is not negotiable."

The Van Leer Institute, a think-tank organization in Jerusalem, is currently in the second year of a programme with 10,000 pupils in Jew-

ish schools called "to live together". It has found that many fear Arab violence even though it points out that more than 90 per cent of Israeli Arabs "have never done anything against the state and its security". In addition it found that Jews felt they might be taken over by the Arabs or feared the possibility of mixed marriages.

The programme, however, introduces Jewish students to the Arab way of life in a 30-hour course. The pupils aged between 15 and 18 are for example given a chance to discuss their feelings with Arabs - normally teachers or university students. In one - quite typical - case two Arab students went along to a school and met with questions such as: "How can you expect equal rights if you don't serve in the army?" and "Do you want me to sit and talk with a man holding a gun at my head?"

Yet all the same prejudices are breaking down - and not only between Arab and Jew but also in the Arab community itself. More women for example are going on to higher education. Twenty years ago it was difficult for them to go on to secondary schools, let alone complete their matriculation. In certain stricter families there is still the feeling that the girl loses her chance of a good marriage if she becomes too well educated but even such families are happier if their daughter goes to a university with a religious bias such as Bar Ilan in Tel Aviv - even if it is Jewish.

Since the Israeli government set up Arab schools in 1949 overall attendance has improved. There is now almost full attendance at primary level although in secondary school it tends to be lower in the Arab than in the Jewish system with about 80 per cent staying on up to the age of 16 and 60 per cent up to matriculation. This compares with between 85 and 90 per cent in Jewish schools.

Most of the Arab pupils tend to drop out when they are 13 or 16 and now it is more boys than girls since they are seen by their families as able to work and bring money into the home.

All of the Arab schools in Israel, although having Arabic as the language of instruction, also have an input of Hebrew and Israeli civics, and Hebrew poses few problems at university. It is often English - a compulsory examination at the end of the first year - where the Arab students have problems and in all there is a drop-out rate of around one in 10.

And in Israel - as in any other university throughout the world - it is academic rather than discipline problems which are the student's main downfall.

The English connection

Almost 500 people from 14 countries met last month in Nuremberg for the largest ever international gathering of teachers of English as a foreign language. The conference, of members and friends of the International Association of Teachers of English as a Foreign Language, placed special emphasis on the use of computer assisted language learning and video.

Pictured at a panel session (from left to right) are: Helmut Schand (a Munich publisher), Mike Lavery (of News), Tony Fitzpatrick (head of the Frankfurt adult education association), Professor Hans-Eberhard Pfeiffer (Glessen University), Professor H. G. Widdowson (University of London Institute of Education) and Alan Maley (British Council language officer, Madras).



Chinese students 'bored with Marx'

by Geoffrey Parkins

The deputy secretary of the party committee of Tongji University in Shanghai, Cai Zhongde, says that students are bored with political education and Marxist theory and are showing increasing interest in Western social theories.

According to recent research, growing numbers were becoming tired of formal ideological teaching and organized political education, and some students rejected Marxist theory altogether. Students were far more interested in Western social theories and had been greatly influenced by

current developments and reforms which displayed a more pragmatic attitude by the Chinese Communist Party, Mr Cai said.

Many students were also beginning to analyse and comment on events on the basis of their own views and emotional likes and dislikes, and to try to find answers for their own about how they should live and behave towards each other. Mr Cai was critical of these trends but said it was perhaps inevitable in the current climate of change.

Mr Cai said that generally students

were enthusiastic about the new economic reforms and many other social advancements. The new pragmatic image of the party was starting to remove students' doubts, and the number applying for membership was steadily rising.

But while these typical merits of today's students should be recognized and encouraged, the weaknesses of students must not be neglected, Mr Cai said. Many students still required much care and guidance, lacking experience of the tumult of recent years. Some were still politically naive, believing anything they were told.

CV banks found to have minority effect

from William Norris

WASHINGTON

Worried by the small numbers of women and black candidates who were being hired as members of faculty, several American universities over the past few years have set up "vita banks" as part of their affirmative action programmes.

The system is simple: *Curricula Vita* from minority applicants for jobs are retained in the bank for two years. When a new post arises, a job description is sent to the equal opportunity office, which scans the bank for suitable candidates - often before the job is advertised. After two years, the institution writes to inquire whether the applicant wants his or her resume to remain in the bank, and whether it

should be updated. So far, so good. The problem is that it simply has not worked.

At Emory University, Georgia, where a vita bank was established in 1983, not a single black professor has been added to the faculty of 1,022. Forty are members of other minority groups.

In a recent case, six applicants were drawn from the vita bank to compete with 94 other candidates who got as far as the interview stage. In fact, since came into existence, the Emory vita bank has provided only two successful applicants for jobs. One was an accountant, the other a clerk.

Such examples have led to accusations that the vita banks are no more than cosmetic commitment to affirmative action. Reginald Wilson, director

of the American Council on Education's office of minority concerns, says: "Many institutions simply use vita banks to meet affirmative action requirements and prove their action to minority candidates in the pool, and then go on with business as usual."

Be that as it may, the number of banks is growing. The latest to be established is at the University of Pennsylvania, where incidents of campus racism have been linked to the faculty. "It's no panacea," admits David Hopkins, director of the affirmative action office there, "but if you do a search in the regular way and pool the chance of hiring a minority candidate is zero."

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Carla Espinoza, who controls the

Geoff Maslen reports on the problems facing Australian tertiary education

New broom - sweeping changes

There are growing fears in Australia's higher education community that Commonwealth efforts to curb spending must soon affect the nation's universities and colleges.

Higher education escaped relatively unscathed after an attack on expenditure by the Labor government's so-called "razor gang". Attempts to reintroduce fees for tertiary students have failed - at least for the moment - but the government has declared it will halve spending over the next two years on one of its own much-vaunted projects: the Participation and Equity Programme.

And if the PEP, rated by the prime minister himself as the cornerstone of Labor's youth and education policy, can be sacrificed, nothing else can be considered safe.

Technical and further education, the third arm of post-school education, has been hit already. Not only will it be affected by the cuts to the participation and equity scheme, but it will also have \$12 million lopped off its capital works programme.

Now, to the unease and uncertainty about future finances in higher education circles, must be added questions concerning the operation of the Tertiary Education Commission and its relationships with the states and tertiary institutions. The TEC is the body which coordinates advice for the government and which recommends how the Commonwealth's annual allocation of \$2.4 billion a year should be spent.

The chairman of the commission, Mr Hugh Hudson, produced a report to the government that is bitterly critical of the way the TEC works, the cost of administering the higher education system, and, particularly,

the lack of cooperation between institutions.

Mr Hudson, a former Labor minister for education in South Australia, and chairman of the commission for only the past year, calls for some sweeping changes to make the commission more efficient, create some new institutions and give the three tertiary sectors will be obliged to be more cooperative with each other.

On the latter point, Mr Hudson writes: "I am in no doubt that far too little has been done, both at Commonwealth and state level, to foster inter-sectoral cooperation and coordination. Too little attention has been paid to the needs of students, especially those from disadvantaged backgrounds, and too much attention has been paid to the interests of institutions."

Why, asks Mr Hudson, should students who undertake a course in one institution or sector, receive so little credit if they wish to transfer to another? Why have there been so little contact between sectors, especially institutions located in the same areas? Why have many institutions been so uninterested in developing closer links with their local schools?

To make a start on including cooperation, the commission has suggested setting up institutes of tertiary education in the outer metropolitan areas. These would not be new institutions, but agencies whose job would be to foster cooperation, help with transfer courses, two-tier courses and course credits, and help

establish new campuses or study centres in suburbs which are now grossly under-provided with facilities.

In his report, Mr Hudson highlights just how big, costly and complex Australia's tertiary education system has become. Involving one in 15 Australians, either as academics, workers or students, and some 300 institutions, it is variously administered by four federal bodies, and a dozen or more state and tertiary authorities, at an all-up cost of around \$3,000 million a year.

The present complex and cumbersome administration is a quagmire of authorities and consultations, Mr Hudson says, and he argues that without changes the government's aim of increasing the participation of disadvantaged groups in universities and colleges will be difficult to achieve.

Among the institutions, there is a clear, hierarchical line from the big city universities, with their hallowed halls and aloof academics, through the 45 colleges of advanced education to a rag-tag cluster of technical and further education centres.

There is an air of permanence about this structure and distinct lines of demarcation between the three sectors. Universities see themselves as centres of excellence with a commitment to research and teaching - in that order.

The advanced education colleges, although often irritated by the reluctance of government to sponsor research by their staff, are geared to producing practising professionals -

the engineers, chemists, computer experts and artisans for the business and industrial worlds.

Technical and further education, meantime, caters to easily the largest group of post-school students and provides a diversity of courses, mostly centred on vocational education. Yet the rigidity of the boundaries and the time-worn appearance of the structures are misleading. It is less than 10 years since the present administrative arrangements for universities and colleges of advanced education were created and only in 1977 that technical and further education was accepted as an integral part of post-school education.

Since 1975, when the idea was first mooted of a tertiary education commission to coordinate the Commonwealth's involvement in higher education, there have been four different governments in Canberra and each one has fiddled with the commission or with the administration of tertiary education.

The result has been a distortion of the lines of communication, through the creating of a maze of coordinating authorities and interest groups. To develop its advice on spending for the government, the TEC must take note of comments from its three councils - statutory bodies in their own right set up to be responsible for the three higher and further education sectors, as well as from at least eight state and territory authorities, plus the institutions which might make direct contact.

The outcome of the TEC's deliberations is a collection of volumi-

nous reports which the last time round amounted to 1,000 pages. This was too much to read in too short a time and proved counterproductive, according to the commission chairman. Moreover, the present structure inclines the interest groups to go in for ambitious claims seeking far more money than could realistically be supplied.

In the TEC's last report, for example, the three councils called for a 16 per cent increase in spending on higher education in 1985; a \$355 million boost. The commission pruned this back to a 7 per cent or \$158 million rise. In the event, the government came up with a 2.9 per cent extra - \$46 million and less than a fifth of what the councils had said was necessary but still a higher increase than any other since the TEC was formed.

Mr Hudson wants to reduce or eliminate this sort of situation by incorporating the councils into the commission and interest groups only and without them going into detailed financial suggestions. He says the Commonwealth should require a single statement from each state listing its spending priorities and covering all three sectors.

These moves, Mr Hudson hopes, would reduce the inordinate amount of consultation and duplication which occurs now and would also cut back on the \$10 million or more which is spent each year disbursing money and advice.

Senator Ryan, the federal minister for education, is shortly to take the Hudson report and its recommendations to cabinet. No doubt any ideas which could lead to the government saving money will be warmly welcomed.

Cheryl Jones talks to two heads of continuing education departments about the changes taking place in their area



Professor Jean Millar (left) and Dr Patricia Fleetwood-Walker

A growing concern

The desire to take the university and its skills out into the community and to industry has elevated the position of continuing education within the university.

The new, hard-selling face of the departments — many of them recently established — may be looked upon with some suspicion by the traditional liberal of extramural studies departments but they would argue that they are in step with the thinking of the University Grants Committee's working party on continuing education which recommended that the area should be brought into the mainstream of university activities.

Two women who have taken up posts as directors of their respective departments relatively recently, Dr Patricia Fleetwood-Walker and Professor Jean Millar of Aston and Brunel Universities, provide a model for this burgeoning area of university life.

The Centre for Extension Studies at Aston was opened by Sir Keith Joseph a year ago and built with capital funds released before the UGC clampdown on expenditure.

Drawing upon the Stanford experience with the assistance of Professor Jim Gibbons, dean of engineering at the Californian university, the centre set out to provide courses based on tutored video instruction (TVI) aimed at updating skills in industry and commerce.

Stanford University relays mostly part-time masters' courses for graduate engineers working for Silicon Valley companies by means of microwave to within a 40-mile radius. More distant companies use TVI by which lectures are copied on to cassette and matched with photocopied handouts. Dr Fleetwood-Walker sees her role as Aston's centre director as that of a broker, facilitating course production and liaising with employers. Before this post she was director of the educational services unit at Birmingham University's medical faculty and then went to Aston as senior lecturer responsible for staff development.

She was a member of the UGC working group and now sits upon the new transitory standing committee and is a governor of Coombe Lodge further education staff college.

She conveys the sincerity and fervour of a recent convert when she talks about the Aston experiment with TVI. Although it is not a new concept in Britain, since many audiovisual units were established with something similar in mind, it has not been done on such a determined scale before.

So far much of her time has been taken up in talking, sometimes five or six times, with companies. More than 10 companies have been provided with tailor-made courses to date. The first is a modular course leading to a diploma in health and safety for the HM factory inspectorate.

Another specialist short course has also been developed so far for teachers on specific learning difficulties associated with literacy which is being studied at 40 schools.

"There is a lot of talking involved at different levels within companies and we have found that they want the material without being particularly bothered about the quality of the videos," said Dr Fleetwood-Walker.

Nevertheless the £500,000 centre by most standards is well equipped. Recordings are made in one of the centre's three lecture theatres of regular internal lectures. The theatres seat 45, 88 and 95 students respectively and have two quality colour cameras and television monitors which can all be controlled by one technician.

Using these facilities, a computer-aided design course package has been designed for Jaguar cars and over 100 academics have recorded lectures so far.

Aston University already had a heavy commitment to adult students through its part-time programme before Dr Fleetwood-Walker said, and the TVI has quickened the change.

"We can only provide for office-based students unlike the Open University which can aim at individuals," she added.

A research officer has been appointed with the Department of Education and Science's professional industrial and commercial updating money to evaluate the scheme and prepare a handbook for external consumption on the TVI scheme.

The centre has to become self-financing eventually but unlike Heriot-

Watt University (which was given only three years) it is an open-ended goal. The centre has benefited from the wholehearted support of the vice-chancellor, and has recouped £40,000 after six months.

It looks a rosy prospect but there are a few clouds. Those who have been involved with audiovisual work before would say that in the end it is boring work for lecturers to do and there are not enough companies around to enable more than a handful of universities to try this kind of course work.

Negotiations with the unions have still to be concluded. At the end of a year's experiment, the Association of University Teachers is concerned with the quality of the product and university academics are looking for agreements over service training, some right of control over use of the videos and the relationship between internal and external use of that material.

A new technology agreement at Aston could set the scheme for similar TVI development elsewhere. "So far TVI has been used mostly internally to split large classes with little use outside. We recognize the educational and professional potential — we are not Luddite in this — but the university cannot take full advantage of its considerable investment without the staff cooperation," said Mr Paul Cottrell, assistant general secretary.

Professor Jean Millar, who was appointed director of continuing education at Brunel University 18 months ago, openly admits that many of the academic staff who might have marketable skills are already overworked.

She organized a conference at the Institute of Directors for senior executives on the problems of new technology for the traditional industries and had persuaded many senior university staff to take part.

"They still came and gave their time free even though they are overworked. Lecturers in electronics and computer science already have too much on their plate and even in terms of teaching have 50 per cent more students than their quota and are already over-loaded," she said.

Brunel set up its continuing education department to provide self-financ-



Sir Keith Joseph at the opening of the Aston centre

ing courses with a concentration on science, technology and vocational education. "As we do not have responsible body status, we cannot afford to run worthy courses on law for women unless companies are prepared to pay the full cost," she said.

The university has started from the premise that less than 5 per cent of all adult education courses in the universities are in the technology sector at a time when the Government and industry are calling out for such provision.

Another problem is that it is precisely those industries which need technological updating who are not prepared to pay a realistic price.

Professor Millar's unenviable job has been to collect records on departmental expertise and to draw upon that expertise for research, consultancy and short course money-earning purposes.

The new technology day course was unusual in that it provided skills training for managers. One manager from an aircraft instrument-making company with premises around London and in Southampton said he had never been invited to any course like this before. "You like to think that your company is using modern systems like this you discover it is not so," he said.

It is at management level, where the

decisions are taken, that updating education is least developed. "We're trying to come in at the top where there is a hiccup in the pipeline but finding that companies will not pay training," commented Professor Millar.

"There is an ambiguity in the UGC working party's recommendation that continuing education should become part of normal duties and saying that they have to be self-financing."

"If you are organizing courses for companies then they are not like undergraduate programmes but have to be well-prepared packages. And you cannot ask your staff to do the work for nothing," she added.

Nevertheless, inroads have been made. A mailing list of 10,000 companies has been devised for publishing off-the-peg courses and 16 leaflets on courses in different disciplines have been printed.

Professor Millar has met with some initial resentment from her new colleagues both as a woman and in her role within the university but as a personable Glaswegian with wit and academic experience herself she takes it in her stride.

Her experience has included teaching comparative government at Lancaster University, research on technological forecasting for the Swedish government and a senior consultant with Peat, Marwick and Mitchell.

Outsider between two worlds

Just a year after Richard Nixon was elected to his first presidential term with an apparently unswerving commitment to end the war in Vietnam, a young American law professor from Yale left his native country to take up the chair of jurisprudence at Oxford University. Not surprisingly, Ronald Dworkin's appointment caused something of a stir around college common rooms. A snappy dress-sense, a deceptively and disarmingly easy-going conversational style and a frank nailing of colours to the mast marked him immediately as an outsider.

Not only would he talk in lectures about Vietnam, a problem which was clearly not going to just go away, but he was quite happy to let people know what he felt about it. He was, in many senses, perfect for the time. It wasn't just across the Atlantic that students were finding it increasingly difficult to reconcile the lofty theory of the lecture hall with the killings at Kent State, black power salutes and, above all, the crazy Asian war.

These media images are now history, and academic life has moved on, but Dworkin retains much of his charisma and appeal, especially — and significantly — among undergraduates. Taking the theory of law as his starting point, he takes pride in his ability to shed light on every type of social, political and economic problem which is thrown at him in his open-ended and participatory seminars.

Joined by colleagues such as Derek Parfit and Amartya Sen, from the fields of philosophy and economics respectively, his discussion groups have an engagement to the outside world which is still found all too rarely in Oxford. Opportunities for cracking a joke are seldom shirked; once, driving him to the logical extremes of an argument to which he was reluctant to be dragged, Parfit triumphantly proclaimed that Dworkin was well and truly low. A moment's pause, a flash of the broad, loopy grin: "Is that a type of sandwich?"

He is far from the hapless Yank at Oxford implied by such anecdotes, however. His 16 years in Britain are a testament to his affection for the country, and especially its academic way of life.

"I didn't apply for the job at Oxford, and when it was offered I only intended to stay for a couple of years. I wanted to make that perfectly clear when I accepted the offer, and was expecting to get into some heavy negotiations, but the first thing I learnt about Oxford was that there was nobody with whom I could negotiate. Virtually every year since then, I have spent the spring in the USA so I have never really felt like an expat."

Dworkin continues to hold a professorship in law at New York University, and writes prodigiously for American publications. He clearly feels more comfortable speculating on the role of academic law in American society, where there is a much stronger connection with politics, and misses the odd snippet of Supreme Court gossip in "which every American lawyer has in his blood".

But it is the "special style of academic life in Britain, the effortless mixing of social and intellectual life, which attracts Dworkin and keeps him here for most of the year. "In the USA, things are much more compartmentalized, and somehow the rest of life is cut off from the academic world. I was struck by how students in Oxford were much more disengaged and detached in the lecture room, but once outside, were happier to talk about issues."

He acknowledges that the British style, and his potentially unsettling style, was more easily accommodated by the number of American students here. "They were certainly turned off by academic life in general during the Vietnam era, and wanted what they were doing to be more connected. In retrospect, my arrival might have been much more of a contrast if they had not provided such a ready audience. It shows the importance of the international side of Oxford, which makes it a real luxury to teach here."

A luxury, nevertheless, which he feels is threatened by the present Government's policies, which he finds inhumane and divisive. Dworkin has never made any great secret of his dislike of the Thatcher/Reagan axis (on election day in 1979, he was proud to wear a red rosette at a postgraduate seminar), and indeed the concepts championed in most of his work —



Ronald Dworkin: far from the hapless Yank

Transatlantic transplant: Peter Aspdon talks to Ronald Dworkin, professor of jurisprudence at Oxford

utopian one, with its study of the Anglo-American legal system and how it can help achieve socially desirable ends. Any student puzzled or frustrated by the yawning divide between practical problems and philosophical theory found the book refreshingly ambitious. Dworkin's predecessor at Oxford, Herbert Hart, helped to establish modern jurisprudence, but could surely not have imagined it taken into such diverse fields.

Although spurred by events in his homeland, many of the topics discussed by Dworkin have suddenly been finding corners in the front pages of newspapers in this country. "Theory has always played a prominent part in the US, less so in Britain because it hasn't been in the national character. But recently, there has been more discussion of principle, and that is what I have always been seeking to push into the debate." He cites the Williams report on obscenity and film censorship, surrogate motherhood, the nuclear debate and the increasingly prominent role of the European court of human rights as examples of change, which have suddenly forced more subtle and demanding standards of discussion, all too rarely matched by pundits and politicians.

The issue of reverse discrimination, or minority quotas, is one which has scarcely taken off in this country, however, compared to the raging controversies it has sparked off in America. Civil rights legislation in the 1960s was all very well, and easy for the gull-ridden middle classes to swallow, but affirmative action was a very different pill. Dworkin's most incisive writing has been reserved for this field, particularly in his discussion of the Bakke case, in which a white student took a medical school to court because he had been refused admission with a higher mark than a black student who was given a quota place. The Supreme Court has yet to settle the issue conclusively, preferring to rest on a series of uneasy compromises. But Dworkin, in his strong support for affirmative action programmes, shows how far advanced the discussion of such topics is in his homeland.

We still, it seems, have a long way to go. "The nature of American society is much more politically complex, even messy. It is much more difficult to bring about widespread change in a short space of time. There is nothing, for example, which the Government would do to universities as has happened in this country. Something like the present Green Paper, which smells of philistinism, just wouldn't have been accepted in the US. Americans seem to have accepted the importance of universities in their lives in a way which hasn't happened here."

He laments the absence of a concerted campaign in Britain to resist the present attack on the academic world. "Where are the heads of universities saying 'this is an outrage, it can't happen'? There is such an overwhelming sense of frustration and moroseness in universities, the feeling that no one is looking after intellectual life. For academic life to flourish in a creative way, society needs to send a message back saying that it is valued. At the moment, people feel abandoned, and there is a lot of talk about moving to another country, which is depressing."

The effects of this Government's policies are inevitably severe because resources are limited. When I first came here, there was a strong feeling

of community, that people were being looked after, in contrast to the feeling at home of being surrounded by people whose lives were so grim. That feeling of family has now been so strained by the 'on your bike' ideology, and people generally are so much more conscious of equality, that anything could happen. It all comes down to whether the traditional British make-no-waves attitude will be superseded by the very real sense of outrage which is increasing all the time. Which will prove stronger?"

He lets the question hang for a moment. Curiously, he doesn't sound at all pessimistic, giving the impression that he has the answer broadly worked out. Dworkin is one of the few academics who make their work sound exciting, urgent and essential, giving the feeling that the world as we know it would fall apart without carefully assembled liberal arguments and scholarly debate. But his generally cheerful mood belies the frustration he must feel, knowing that the very gap he

seeks to fill, between philosophy and political life, ironically thwarts him. Thus he remains disillusioned, even contemptuous, of right-wing "thinkers", while always acknowledging the havoc wreaked by their followers. "Though he does not say so explicitly, he is clearly more worried about Britain than his homeland, and it is not easy to predict how long the 'lovely springs' will retain their attraction. Kumbours have long been rife of a judicial appointment back home, but, as he swiftly points out, that would have to wait for a change in administration. In the meantime, he keeps his aspirations to himself. "It might be better for me to find another job, but I could never sever my intellectual connections with England, because I feel so English." The top-sided grin returns. "There is a real question in this country of which direction the intellectual style of politics will take over the next few years — the future is up for grabs." Somehow, one feels he will be with us for a little while longer after all.



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Stepping stones to Cambridge

In the first of two articles on Oxbridge admission reforms, Adriana Caudrey looks at the Fitzwilliam College procedure

Fitzwilliam was the second college to make a unilateral declaration of independence during the current Cambridge University admissions revolution. Following in the footsteps of Emmanuel, and in turn followed by King's, Fitzwilliam decided to break free from the postwar special entrance exam which has set Oxbridge apart from the other universities.

The rebellion by the gang of three takes effect from this year and means that instead of weighting up candidates on the basis of the university's own performance in GCE exams, college interviews and on head teachers' reports. Senior tutors of both Fitzwilliam and Emmanuel have argued publicly that the special exam, taken in the fourth or seventh term, is divisive and favours sixth formers at independent schools, where there is special preparation for it.

The three's defiance provided the catalyst for the entire university to rethink its admissions procedure. The result is that from 1987 all 25 Examinations. As the name suggests, STEP is to be taken in the same term as A levels; it will also be based on the A level syllabus. According to Dr Robert Lethbridge, senior tutor at Fitzwilliam: "The exam will require extra thinking, but no special teaching."

During the interregnum, only Emmanuel, Fitzwilliam and King's are dispensing with the time-honoured university exam — the other 22 colleges are sticking with it.

Fitzwilliam's stand came as no surprise. Since the turn of the decade the college has sought to disturb the status quo on selection procedures. While it has not gone out of its way to discourage

sixth formers from public schools, it has made a special effort to attract candidates from comprehensives and sixth form colleges. The result is that Fitzwilliam already has a ratio of 70 per cent undergraduates from comprehensives against 30 per cent from independent schools. The university as a whole has a 50/50 ratio.

Figures for applications and acceptances in 1984 show that 43 per cent of applications (3,358) came from maintained schools as against 37 per cent (3,031) from independent schools. Yet 49 per cent from the latter (1,456 sixth formers) gained places, as opposed to 37 per cent (1,117) from maintained schools.

Fitzwilliam has tried a number of ways of avoiding this imbalance. First it makes a point of establishing links with comprehensive schools and sixth form colleges. Dr Peter Seaby, the college's admissions tutor for the arts, explained: "We're not trying to exclude other schools, but we see sixth form colleges as a constituency of our UDEs." Also, even before its declaration increasingly offering candidates places, conditional on A level results.

There was a time, they both recall disapprovingly, when physical, not intellectual muscle, could earn a candidate a place. Fitzwilliam then had a reputation for its rowing, rugby and cricketing accolades. Now, says Dr Seaby: "We're not trying to sink the boat, or recruit one-legged students, but we are anxious, above

all, to accept people on intellectual merit."

One reason why Drs Seaby and Lethbridge feel confident that the decision to scrap the special entrance exam was the right one — is that they set great store by their interviews. Arts candidates are interviewed both by Dr Seaby and by the head of department.

Dr Seaby is absolutely clear as to what he is looking for in a candidate: "I am looking for a lively, interested person, with a range of intellectual pursuits, with curiosity and interest in their own subject, and the ability to argue back — not spongy-like."

The last year I have asked every candidate what he or she thought about the miners' strike and whatever they said I argued the contrary. I Falklands War and whatever they thought about it, I argued the contrary. I have had the Belgrano sunk in this room over and over again."

Fitzwilliam also emphasizes its "ordinariness" as a way of attracting more candidates from state schools. It is not a college burdened by a sense of great past, nor by aesthetic splendour. Physically, the college is a far cry from the dreaming spires centre of the city.

Historically, Fitzwilliam has literally been "the poor man's" Cambridge college. It was founded in the mid-nineteenth century as a non-collegiate society for undergraduates who could not afford

college fees. And it was only in 1966 that it was granted full collegiate status.

Both Dr Seaby and Dr Lethbridge have made it their principal aim to raise academic standards in the college and to move towards an increasingly meritocratic admissions policy. This has been marked — among other things — by a break with sporting connections as a way in.

Fitzwilliam has very high entrance requirements. Three As is not an unusual stipulation. And for certain subjects, notably maths, candidates must also have an S level. Dr Lethbridge explains that this is because Cambridge maths is very demanding.

Both he and Dr Seaby are optimistic that STEP will be a much fairer alternative to the dying exam system. Dr Seaby said: "We hope that schools won't believe it to be necessary to set up special STEP classes, because the exam will consist of core A level syllabus material. Otherwise part of the reason for scrapping the original exam system would be lost."

STEP will be set and marked by the Oxford and Cambridge, and the Cambridge examination syndicates, although colleges will also have access to the papers. There was much deliberation as to when during the sixth term the exam should be taken. Finally it was decided that it should be taken after A levels.

Cambridge did some careful canvassing before it decided to change its exam system. A questionnaire was sent to 4,530 headteachers, of whom 2,139 replied. Almost 60 per cent were in favour of the special fourth and seventh term exam being abolished. Seventy per cent of state school heads backed the abolition against 34 per cent of independent school heads.

The enterprising Mr Kirk

Gordon Kirk, principal of Moray House College of Education in Edinburgh, has never believed in concealing his views just because he might be in the minority.

He has agitated, enraged and offended, at one time or another, the Scottish Education Department, the universities, college and teaching unions, the General Teaching Council for Scotland and the occasional fellow principal.

He has also won respect and admiration for his dynamism and radical approach. There is a certain appropriateness in this having been dubbed the "Beam me up, Scotty" plea come more often from his protagonists as he seeks out new worlds for the colleges of education.

Changes and developments in professional education, a number of them pioneered by Moray House, are the theme of a book edited by Mr Kirk to mark the college's one hundred and fiftieth anniversary this year. The principal himself has contributed two chapters to *Moray House and Professional Education*, a series of papers by college staff, to be published later this month.

He describes the college's response to the current retrenchment, pointing out that it has had a cut in its student population from 2,700 ten years ago to 1,211 last session, with the loss of a third of its academic staff over the same period.

Unlike their counterparts south of the border, Scottish education colleges have been unable to diversify, since the Scottish Education Department has firmly confined them to their monotechnic role. This has meant that the only way for the college to develop is by improving the quality of its established work, Mr Kirk writes.

He criticizes the recent National Audit Office report on SED control of the colleges for concentrating on surplus accommodation and ignoring the "tremendous qualitative improvement" throughout the sector.

One of the principal's major concerns is to develop a genuine partnership between the college and the professions it serves. The college's new primary BEd, a four-year degree introduced in 1983 following the Scottish Office decision to have an all-graduate teaching profession, is "at the cutting edge of teacher education", he says.

Teachers, head teachers and advisers joined college staff in planning the degree and this was consolidated by a Moray House initiative to set up an agency of senior college staff and neighbouring regional authority advisers, which plans and supervises placement between the college and teachers in placement schools.

Gordon Kirk believes firmly that schoolteachers are not only models for action for students, but are vital to theoretical training. And Moray House now involves school staff in the assessment and selection of students.

The way ahead is for the boundaries between the college and the professions to become more permeable, says Mr Kirk. The education colleges must

Mr Kirk: Intent on improving the quality of established work

see themselves as working with their peers, and refusing to continue to allow themselves "to be ascribed the role of imparters of professional wisdom".

But he is wary of collaboration with the universities. In the book's final chapter, he rejects the solution of shrinking colleges of education being absorbed by the local university.

The most striking difference about the new BEds is that they attach as much value to professional achievement as they do to academic and intellectual achievements, he writes. In the past, professional standards were recognized in a separate college of education licence. Unless the universities could accommodate the dual ethos, mergers "would endanger the full professionalism of teaching in Scotland".

Gordon Kirk is not a standard-bearer for the Scottish Council for the Validation of Courses for Teachers, a consortium of Scottish universities and education colleges, and he does not think any better of the recent Lindop report on validation for its enthusiasm for the scheme. The Scottish council was set up in 1983, the result of unhappiness with the London-based Council for National Academic Awards. But Moray House has remained with the CNA and Mr Kirk, a CNA member, is unapologetic

about his lack of Scottish nationalism. "The quality of our courses depends very largely on their being able to satisfy informed, experienced outsiders who have no axe to grind. I think the whole credibility of external peer review depends on it being national rather than local," he said.

When times are tight, he says, validation everyone knows everyone else, validation is its own reward.

He also opposes the Lindop committee's view that mature institutions think it is a sign of professional and institutional maturity that you are willing to submit your work to independent national scrutiny. "Peer review should not only be preserved, but extended to the universities," he adds.

Still shooting from the hip, the principal has recently been sparking off controversy through the teacher's union, the General Teaching Council. The GTC must approve initial teacher training courses and is responsible for registering all teachers. Gordon Kirk argues that it should also approve in-service courses and stipulate training requirements for all the specialists and promoted posts, including that of education college principals.

GTC registration, he adds firmly, should never be final. Is that not playing into Sir Keith Joseph's hands when he says to weed out the class-room duds? "I regret that the way the issues have been interpreted, people change, and the council should be better."

Mr Kirk will be free of his critics this summer, however, as visiting professor of education at Delaware University in the United States. He will be addressing very well-motivated students, since salary increases are tied to successful completion of courses.

Will the principal next be urging the SED to link professional development to pounds sterling? "The SED answer would be that they would be happy to if they had fewer teachers," he says. Current pupil teacher ratios, of 20:3:1 in primary and 13:7:1 in secondary, are "ridiculously low". Mr Kirk adds - when he was teaching 20 years ago he had classes of 48.

In the current dispute, teachers are calling for an independent pay review, he says. "Will there be included on the agenda questions about the size of the teaching force? Maybe one of the reasons why we don't have such a highly-paid profession is that there are so many of us."

The starship commander strikes again.

Moray House and Professional Education, ed. Gordon Kirk, Scottish Academic Press, £10.50.

Private investigations in sensitive fields

Jon Turney looks at the increasing curbs on transfer of scientific data in America

American scientists in militarily sensitive fields now face creation of a separate "classified" communication system. They will attend conference sessions closed to foreigners and are not accredited by their embassies. They will have to promise to keep secrets. And some may soon have to publish their papers in peer-reviewed journals whose contents are entirely classified.

Although the spokesmen for the scientific community still oppose further restrictions on information transfer, the US Department of Defense appears set to keep up existing controls, and possibly extend them. Dr Sumner Benson of the DoD told a session at the American Association for the Advancement of Science meeting in Los Angeles last month the department would make routine use of export control regulations to regulate access to sensitive, but unclassified data.

This means there are likely to be more episodes like the meeting of the Society of Photo-Optical Engineers in April, where Pentagon officials told the organizers 43 of the 219 papers on the programme could not be given openly. The society appealed higher up in the department, and were eventually allowed to arrange closed sessions for 28 of the papers.

The department has the power to make rulings like this under regulations drawn up to prevent export of material with potential military applications. The papers - most of which dealt with research which might be relevant to President Reagan's "Star Wars" programme - were read at sessions open only to US or Canadian citizens, or permanent residents, or foreign nationals with letters from their embassies certifying their citizenship and their interest in the meeting.

This is the latest in a series of incidents over the last four years which have irked American scientific leaders, but their protests have not deterred the defense department trying to stem what Admiral Bobby Inman, former deputy director of the CIA, called "a haphazard use of technology to the Soviet Union".

There are a set of rival interpretations of the state of the US debate, and the latest issue charts the increasing prevalence of a spin-off from the government restrictions - limits on access to scientific meetings imposed by the organizers themselves, to avoid defense department intervention.

Sessions closed to non-US citizens through action by the organizers have been held at meetings of the American Institute of Aeronautics and Astronautics, the American Astronautical Society, the Society for Advancement of Materials and Process Engineering and two meetings of the Society of Manufacturing Engineers on composite materials.

The materials ban affected some British scientists who wanted to attend, and was imposed even though 10 per cent of the SME's members are foreign nationals. Next year, the society plans to hold a similar meeting with parallel open and closed sessions.

Developments like this are causing concern in British scientific societies, and the Royal Society is keeping a watch on such incidents. But there is little British researchers can do to affect the general climate in America, which seems set to reinforce the current trend toward greater restriction on communication.

Dr Benson saw "no basic difference between scientific freedom and national security, but there are different judgments on just what controls are needed". And he suggested that controls finally settled on by the Pentagon would be essentially similar to those widely accepted by scientists consulting for industry - don't about your research to anyone who comes along and don't talk widely.

However, others took issue with implication that further discussions would straighten out misunderstandings between the two communities. Mitch Wallerstein of the US Arms Academy of Sciences saw the greater sensitivity about security in the US as one symptom of a wider malaise.

"We are only beginning to grasp the implications of what some of the international security provisions are doing to the international research and development system as a whole," he said. He suggested the current code might mark the beginning of a dissolution of the carefully nurtured international research network.

The world scene was marked by increased competitiveness, partly research in many areas between the Soviet bloc and the West, and development of centres of excellence in search in newly industrializing countries. America was no longer pre-eminent in research in many fields, but responding by actions like banning foreign nationals from meetings at pulling out of UNESCO. At the same time, it was trying to impose security conditions on foreign countries to participate in programmes like Star Wars or the space station.

He implied that the US could maintain projects like this while simultaneously restricting the flow of information without putting Europe and Japan in an impossible position.

Dr Wallerstein also disclosed there was a proposal to start a classified, peer-reviewed journal in one sensitive field. US observers believe this could be in materials science or optics/electronics, although it is possible researchers outside the circle of those granted access would never know.

However, the limits of the DoD drive to tighten security look more likely to be set by pressure from industry than by academic protest. Significantly, Mr Boyd McKelvie of the General Electric Company warned at the AAAS meeting that company managers were worried they might have to stop employing foreign scientists in their laboratories. He feared this would lead to tilt-for-tat action overseas which would harm the American economy.

Mr David Packard, chairman of Hewlett-Packard, made the same point in a speech attacking the defense department's policy last year.

The US debate has some way to run, with a series of official and unofficial working parties studying effects of restrictions on information and writing alternative policy proposals. The AAAS is acting as a clearing house for new proposals, and now publishes a regular bulletin on the area. The latest issue charts the increasing prevalence of a spin-off from the government restrictions - limits on access to scientific meetings imposed by the organizers themselves, to avoid defense department intervention.

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Defender of a faith

Steve Bruce and Roy Wallis examine the Ulster Loyalist community and its support for Ian Paisley

The first step to understanding the political behaviour of the Protestant population of Northern Ireland is to see them most importantly as an ethnic group. This means that Ulster Protestants by and large see themselves as the outcome of an historical experience and the embodiment of a culture of a distinctive kind, with its own traditions, values, symbols and life-style, the bearers of which are entitled to exercise rights and privileges, and to receive differential rewards, to which non-bearers are not entitled. These rights and privileges must particularly involve the right to see their values and cultural symbols displayed in the operation of the state; the privilege of displaying their cultural superiority through Orange marches; for their symbols and traditions generally to have a priority - if not a monopoly - in public display; and for bearers of this culture to have priority of access to employment and rewards distributed by and within the state. The Troubles in Northern Ireland involve a cultural conflict - with all its social and political ramifications - between a nationality on the one hand and an ethnic group on the other.

That the Loyalist community is an ethnic group and not a nation has important consequences. Its attachment to the symbols of religion despite a relatively lower participation in religious institutions and activities than its Catholic counterpart is otherwise a considerable puzzle. Why - after all - does Paisley's religious rhetoric and style succeed among a population which has said ever closer over the years toward the north British Protestant norm of religious indifference?

Of the Protestant population nationality is less readily predicated. The identification of themselves as British figures prominently in the public rhetoric of Protestant politicians, yet it has always been a conditional allegiance. Ulster Protestants are British to the extent that Britain supports their separation from the Republic of Ireland. When - no matter that it might in the long term and no matter how complex the constitutional safeguards - Britain and its government seem to concede anything, the idea that the troubles of Ulster might be resolved by the unification of Ireland, then the identification of Northern Ireland's Loyalists as British is inevitably subordinated to their identification as Ulster Protestant.

No one could seriously deny that the uneven economic and industrial development of Ireland supported and enhanced a sense of difference between north and south, nor that the operation of the Northern Ireland state during its first 50 years entailed systematic discrimination in many areas of life, including jobs and housing. Nor could it be denied that the advantages experienced by the Protestant working class - slight though they often were - enhanced their identification with a sectarian state and encouraged a continuing divergence of interest from their potential "class allies" among the Catholic population.

Yet it is hard to see this as an adequate explanation of the unity in diversity that constitutes the Protestant position in relation to their Catholic neighbours, the more so as relative economic advantage for the Protestant working class has been eroded by the formal - and thus inevitable - limitation of the Civil Service rules, the scrutiny of the Fair Employment Agency, and so on; and an economic recession which has inevitably forced large quantities of both sides on to the dole. A Protestant unemployment rate that is in many parts of the province only marginally lower than that of Catholics, scarcely seems adequate as a reason for the continuing intractable political antagonism between the two groups.

In short, irrational attachment to national identity, or to class advantage bolstered by religious identity, will not do as adequate explanations for Protestant political behaviour. Let alone the support enjoyed by Paisley.

Charismatic figure: The Revd Ian Paisley addresses a rally at Trafalgar Square after a Derry apprentice boys march in London



them out to the Irish Republic, as it has offered to do in the past.

What other alternatives are available? The Ulster Defence Association, a Loyalist paramilitary grouping, has pursued another line: drawing its support predominantly from the working class, the UDA has been seduced somewhat towards socialism. It has also sought among mythological conceptions of the Planter population as the return of an Irish culture earlier than the Gaelic, an alternative to evangelical Protestantism as a viable basis for the Loyalist identity. But to the degree that the UDA has drifted towards socialism, so its political importance has diminished for socialism is a prominent element of major sections of the Republican movement.

Thus, the more the UDA commits itself to socialism as an ideological base, the more it threatens to erode precisely what differentiates Loyalists from militant Irish nationalism, threatening, therefore, the very distinctiveness of the Protestant status group. A distinctiveness which, in turn, has led to a cultural dominance which provides a claim to superiority, not even a basis for a claim to legitimate separation. The socialist alternative as a basis for identity threatens the very existence of the Protestant community.

Ulster Protestant identity was also threatened by the other major shift away from evangelical Protestantism which, indeed, in considerable measure precipitated the present Troubles. This took the form of the policies and practice of Captain Terence O'Neill, Prime Minister of Northern Ireland during the middle and late 1960s. O'Neill strove to make tentative links with the Irish Republic and to improve relations with, and the lot of, Northern Catholics. Both the degree to which O'Neill's marked a break with prevailing traditions of sectarianism in the Northern Ireland government, and the forces motivating such a departure are matters of dispute. What is crucial, however, is the fact that whatever the "reality" of the matter, some sections of the Protestant community saw O'Neill as implementing a number of breaks with tradition.

Moreover, on his own account at least, O'Neill saw himself as breaking with tradition, and the form of that departure was a shift away from the blatant sectarianism of the state and a politics predicated upon intransigent defence of the interests and symbolic superiority of the Loyalist community, towards a politics predicated on more democratic, rationalist principles.

For O'Neill and those who supported him most passionately, nothing must be lost by such a change. They were among the more cosmopolitan of Ulster society. O'Neill had lived a long time in England and had been educated there. O'Neillism drew much support from the less provincial sectors of the Ulster middle-class, many of whom could see the advantages of a drift away from traditional dualistic appeals, to draw in further multi-national claims to social and cultural priority and thus toward a greater acceptance of Catholic values and traditions. This was seen in combination with the aspirations of successive governments of the Re-

public to unify Ireland, and the prominence of the Catholic Church in the social and political life of the Republic. This greater liberalism threatened the subordination of the Protestant claim to dominance in the North, and the attenuation of their culture in favour of another, and in favour of the social and political aspirations of a social group historically viewed as their inevitable enemies.

Paisley represented an assertion of the core of Loyalist culture. His political views were consistently antagonistic to any such compromises. They were articulated in terms of a religious rhetoric drawn from the tradition rather than temporizing with the language and style of rationalistic British politics. These religious themes may not actually be actively believed by all Paisleyite voters but they resonate with the cultural traditions imbedded with their mothers' milk.

In personal style, too, Paisley is the archetypal Ulster "thick man". He makes no significant effort to soften the raucousness of his accent. He seeks opportunities to stout the style of the politics of compromise which are the stock in trade of Westminster and Brussels. In this respect he marks himself off not merely from the politicians of England and Europe, but from a great many moderate Ulsterist politicians as well. His very style reasserts the tradition in the face of the threats of modernization. He locates himself in the tradition of great Protestant reformers and evangelists: Luther, Calvin, Wesley, Whitefield and Spurgeon. He also follows in both message and manner the precedents of Ulster Protestant heroes who spoke out against what they saw as Catholic aggression and a compromising political establishment: Henry Cooke who fought political and religious liberalism in the 1820s and 30s; Hugh Hanna, the Presbyterian clergyman who figured prominently in sectarian riots in the second half of the 19th century; William Johnston, who in 1866 and 1867 led Orange marches in defiance of a government ban.

Thus, Ian Paisley has been able to represent himself, his church, the Free Presbyterianism, and his party, the Democratic Unionist Party, as the only true defenders of the traditional identity and privileges of Ulster Protestantism. While other unionist politicians may compromise and other Protestant churches may be seduced by communism and modernism, only Paisley and his organizations stand firm on traditional principles.

He has therefore succeeded in attracting to his support many traditional evangelicals - often in rural areas - and also many urban Protestants who are religiously rather indifferent, but who see Paisley as the most effective articulator of the only identity which will maintain the separation of their state and the standing of their values, culture and way of life.

The authors are lecturers in and head of the department of social studies at the Queen's University of Belfast.

T.H.E.S. Reprint Service

'Reviews of New Science Journals'

This eight page special number was published in the THES last September and Journals in the following areas were reviewed.

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Ernest Boyer



Message to the nation: do not adjust this vision

Recently, the higher education debate in Washington focused on the budget. The administration had proposed sharp reductions in aid to colleges and universities. But Congress resisted these recommended cuts and federal aid to higher education appears, for the moment, to be secure. While Congress has yet to act on the final figures, it now seems clear that current funding levels will be substantially maintained.

At the same time, many leaders of Congress see a need for change. There is overlap and duplication in federal aid to students. Many worry about the ever increasing loan burdens the students are assuming. Obligations of \$10,000 to \$20,000 are not uncommon. And some argue that current programs of grants and loans unduly benefit the privileged.

Still, while conceding problems, there is the nagging feeling that the administration does not understand—or is unwilling to accept—the historic partnership between the federal government and higher education. In this context, the board of trustees of the Carnegie Foundation for the Advancement of Teaching recently issued a policy statement reaffirming the vital federal link to the nation's colleges and universities.

The Carnegie trustees, most of whom are heads of higher learning institutions, wanted to be sure that lawmakers understood that education serves not only students and institutions but the nation too. Reforms should strengthen but not weaken the partnership between the Government and higher education.

In the Carnegie statement released last month, the trustees said: "America began with the conviction that for democracy to work, education is essential. Those who charted the future of this nation linked democracy to knowledge."

"George Washington said, 'Knowledge is... the surest basis of public happiness'. John Jay declared that knowledge is 'the soul of the republic'. And in 1778, Thomas Jefferson drew up an education plan to raise the mass of the people to the high ground of moral respectability necessary to their own safety, and to orderly government'."

"In these convictions, the nation built public schools for universal education. Colleges were established to train leaders and serve America in peace and war. Private and state support increasingly was supplemented by federal assistance, resulting in a higher education system unequalled in the world."

"Today the vital federal connection to our colleges and universities is being challenged. After decades of strong bipartisan support, the current debate about budget priorities has been focused almost exclusively on numbers and on the negative of higher education. The larger perspective has been lost. We hear how much education costs, not how much it is worth. We are told that students are exploiters, rather than tomorrow's leaders. And we are reminded of the abuses, not the benefits of higher education."

The Carnegie statement, entitled *Sustaining the Vision*, went on to note: "We believe that the moment has come for the historic partnership between the federal government and the nation's colleges to be reaffirmed. Educational obligations are increasing and federal support for colleges and

universities must increase, too. The nation's greatest strength is not its weapons but its people. Our greatest hope is not technology but the potential of coming generations. Education is, as it has always been, an investment in the future of the nation."

The words of the Carnegie trustees resounded loudly. Senator Robert Stafford, Vermont Republican and chairman of the Senate education subcommittee, in endorsing the statement, reminded colleagues that although the cost of student aid is substantial, "we must keep in mind that what we choose to cut today, will be subtracted from the future capabilities and achievement of those men and women who would be denied higher educational opportunities. Their individual losses add up to our national detriment."

On the Democratic side, New York City Congressman Mario Biaggi told house colleagues that the Carnegie statement "contains an important message at a time when those of us who are long-time advocates for federal higher education programmes are being consumed by budget-cutting fever. We once pointed with pride to our efforts to enhance educational opportunity to all our citizens, regardless of income. We now find ourselves in a defensive posture that I consider to be counterproductive and contrary to public interest."

Congressional support for the Carnegie view was echoed in national media from coast to coast. The *New York Times*, citing a central question posed in *Sustaining the Vision*, asked: "How much of America's human resource can we afford to waste?" The response: "To an administration bent on retreating from federal aid to higher education, it's a question worth repeating."

An editorial in the *Pittsburgh Post-Gazette* said: "Clearly the Carnegie foundation's warning needs to be heeded." The *San Diego Tribune* took special note of Carnegie's support for academic research. "It must not be shorted. Our industrial future depends on it."

Why this outpouring of support for a statement reaffirming higher education? While everyone acknowledges the need to help to reduce the budget deficit, there appears to be a growing conviction that education and the nation's future are inextricably interlocked.

The Carnegie trustees reaffirmed this larger vision. Their statement said: "Because throughout its history America has linked democracy to knowledge, our goal increasingly has been to expand the opportunities for both school and college education. If we maintain this vision, there is no limit to what the energies of our people can produce. But if we distort it, we will surely breed cynicism and despair. And we will be a different people from the one, in our finest moments, we have always believed ourselves to be."

The debate over the federal role in higher education will persist in the days and years ahead. Lawmakers continue to probe this basic issue; they should recognize that public support for higher education is needed to serve the public good. As the Carnegie trustees put it: "The aim of education in our democracy is not only to prepare the young to work but to enable them to live with dignity and purpose; not only to generate new knowledge, but to channel knowledge to humane ends; not merely to learn about our civic institutions, but to shape a citizenry that can weigh decisions wisely and promote the public good."

Keywords: Dennis Kavanagh chooses S. M. Lipset's *Political Man*

Original testament to a liberal democracy

Some 25 years ago the social sciences began a short-lived and modest expansion in British higher education. At the time there were a few books which:

- blended theory and empirical data (eg Riesman, Bell, Kornhauser);
- were concerned with the conditions of stable democracy;
- could be considered political sociology, in that they ranged across the social sciences;
- were soon regarded as statements of liberal pluralist political values, and eventually of neo-conservatism.

Seymour Martin Lipset (along with Herbert Simon) is regularly placed at the top (by a wide margin) of scholars cited in social science journals; in large part, this is because he and Simon are interdisciplinary. Lipset's *Political Man*, first published in 1960, must be among the most heavily cited texts in the post-war era.

It became a bible for defenders and critics of liberal democracy—the one to cite it, the other to subject it to a methodological and substantive critique and even expose of the author's values. Several printings later, the book has been translated into 17 languages and sold some 280,000 copies.

Strangely, *Political Man* is not a systematic treatise. It is a set of essays, some previously published, rewritten and linked to address major questions of democracy: class, power, and ideology. The chapters deal with the social and economic requisites (ie correlates) of stable democracy; working-class authoritarianism, socio-economic correlates of electoral participation, end of ideology, types of fascism, and the relation between bureaucracy and democracy in organizations.

The book could not have been written in 1960; there simply was not the material available. A decade later the problem would have been that each topic had acquired its own shelf of specialist literature. It is grudging to say, but Lipset was fortunate to have such an early word on these themes, before others moved in. Many of his statistics were simple bivariate tables, compared to the elaborate statistical analyses of a later generation. Yet an impressive amount of the substance of the book still stands today.

The book's impact lay partly in addressing such interlocking topics as power, class, bureaucracy and so on. But it also lay in the bold and immediate way Lipset moved back and forth between discussions of de Tocqueville, Marx, Weber and Michels and relevant empirical evidence.

As a sociologist he realized that he could not study society without including the political system, and political behaviour was related to wider social and psychological patterns. In his preface he claimed "the study of man in society cannot fruitfully be compartmentalized according to substantive concerns."

Also impressive, if risky, was the breadth of Lipset's allusions and use of survey data, drawn from so many countries. At times, they were illustrative of a point rather than a rigorous testing of it.

Lipset's eagerness to generalize, his hypotheses, and test statements by Marx and others were thought by some critics to be rather over-the-top. In the *American Sociological Review* (1960), was such a critic, and explained it thus: "Struggling within him is a Weber, Parsons, Merton theoretical impulse, a Lazarsfeld methodological impulse, and a Lynd impulse toward significance and relevance." Too true, as it was of Almond himself.

Any file of reviews on Lipset's works would contain a fair number of *ad hominem* comments. For those who like to know that sort of thing, he was part of that brilliant, Jewish, New York leftist community around the City University of New York in the 1930s (along with Dwight Macdonald, Irving Kristol, and Nathan Glazer).



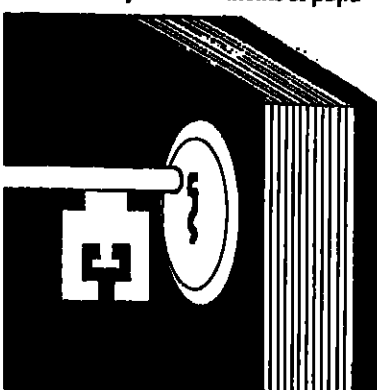
He was a Trotskyite until 1940 and remained a socialist until at least 1960. (If *Political Man* was not written by a Marxist, it was not written by an anti-Marxist either.)

Today he is identified as a leading neo-conservative (along with his early colleagues). Notwithstanding this, there has been great consistency in his interests.

The book stands out for four themes, each of which has drawn the wrath of some critics.

First is his definition of democracy as the competitive struggle between elites for votes at general elections. Like Schumpeter, he dismissed so-called "classical" statements of participatory democracy or proposals for greater controls on the elites.

Critics pointed to the adverse consequences of social and economic inequalities, the restricted nature of the agenda, or claimed that democracy entailed many other elements of popul-



lar control. In time, Lipset's statement was tagged an "elitist theory of democracy."

This was linked to a prevailing academic hostility to mass politics and the need for a certain autonomy for political elites (of the rediscovery at the time of de Tocqueville). The inter-war years had shown what a fragile plant liberal democracy was in central and southern Europe and that the lower classes were not necessarily supporters of liberal democracy.

Lipset distinguished an *economic* liberalism—for redistribution and welfare—from a *non-economic* liberalism—for internationalism and civil rights for minorities and dissenters. The former was supported by the workers for hard-headed reasons of economic gain, while the latter was supported by the middle class and well-educated. Because the lower class was often authoritarian, owing to its lack of education and lack of economic and psychological security, it was a benefit that workers (or at least those who were prone to intolerance or extremism) participated less in politics than the middle class. In defence of Germany in the 1930s, claiming that an increase in political participation might reflect a decline in social cohesion.

Lipset and others also referred to an end of ideology, in particular to the erosion of Marxist ideas on the political left, under the impact of the success of mixed economies and the spread of affluence to the working class. In the 1930s Conservatives accepted the welfare state and full employment, while

the left acknowledged the dangers of the concentration of power in the hands of the state. Workers had finally gained political and economic citizenship, and, "the fundamental political problems of the industrial revolution had been solved."

In fact, several studies have shown how the differences between parties in western states narrowed after 1945 and a close reading of the text shows the Lipset (like Bell) was aware that other ideologies might develop. Again, the elites have shown some revival of ideology in recent years. But opponents objected to the uncritical treatment of liberal democracy: "... It is the good society itself in operation."

Lipset also addressed the question of the kinds of society in which democracy would survive or flourish. The famous "Social Requisites of Democracy" showed the close association between democracy and economic development.

One may make fair objections to the confusion of correlation and causation (eg a number of western democracies were monarchies, therefore the latter was a cause of the former), the implicit economic determinism, and the exceptions (eg Ireland, poor but democratic; Nazi Germany, economically developed but not democratic). But the range of indicators (eg literacy, can and telephones etc) for various factors like industrialism, wealth, urbanism and education was an ingenious attempt at operationalising socio-economic development.

The article seemed to confirm Aristotle's claim that a middle-class society secured democracy. Moreover, the passage of time has strengthened the correlation.

Twenty-five years later it is remarkable that so much still stands. The British political scientist Ivor Crewe recently compiled a lengthy table of the socio-economic characteristics of voters and non-voters across nations. It was almost identical to Lipset's in the 1960s.

Studies of the adversarial stance among intellectuals, of working-class authoritarianism (support for Enoch Powell over immigration and for George Wallace over race in the US) and of middle-class liberalism or leftism have also confirmed his analyses. In this sense the book was ahead of its time.

But in another sense it belonged to 1960. American social science (except for economics) was far ahead of Britain. The young W. G. Runciman regarded *Political Man* as a welcome challenge to the outdated syllabus at Cambridge. But studies of public opinion, voting and culture took off and the fields of political science and sociology became more specialized and internally fragmented.

In the early 1960s a political sociology was the queen of the social sciences in western Europe. Aron, Duverger, Sartori, Finer and MacKenzie, because of their range, could be called political sociologists. It is hard to see their successors today. Subsequent professionalization and specialization have had their costs, not least for political sociology.

The author is professor of politics at Nottingham University.

In the first half of the 16th century Italy was still the intellectual and cultural centre of Europe. In literature and the arts, in classical studies, in philosophy, natural sciences, medicine and technology, innovative works, many of them vitally important for the future, flowed from Italian printing presses in a never-ending stream, which continued to run, at a slower rate, in the second half of the century, when preeminence in many of these areas had passed north of the Alps. But until now, researchers in these fields have had to contend with a serious and surprising limitation, the absence or the thinness of bibliographical research tools on this important output.

All this is now about to change, thanks to the successful initiation of a well-conceived, carefully planned and enthusiastically directed project aimed at providing a short-title catalogue of the surviving production of the Italian 16th-century printing industry. This project is the *Censimento delle stampe italiane del XVI secolo* (It consists of 16th-century Italian editions), organized and carried out by the Laboratorio per la Bibliografia Retrospectiva, a section of the Istituto Centrale per il Catalogo Unico delle Biblioteche Italiane e per le Informazioni Bibliografiche, itself an organ of the government department (Ministero per i Beni Culturali e Ambientali) responsible for looking after the nation's cultural heritage.

There are several reasons for the scarcity and unsatisfactory nature of 16th-century Italian bibliographical repertoires. The first is the privileged position which has always been given by librarians and bibliographers to the cataloguing of 15th-century books. Italy is no exception. It has recently finished publication of a comprehensive and excellent catalogue of incunables in Italian libraries, *Indice generale degli incunabili nelle biblioteche d'Italia* (IGI), compiled by the same organization which has now embarked on the 16th-century census.

Another is the frightening size of the task, because, at least in the first half of the century, Italy was the centre of European printing, and more books were produced there than in any other country. It's probable, for example, that the *Censimento* will list about twice as many editions as the new *English Short-Title Catalogue*, which covers a period nearly twice as long, from 1475 to 1640.

And to make the task of surveying this massive output even harder, there is the fact that until 1860 Italy consisted of six major and several minor political units, and since unification, hasn't made any real effort to centralize its library holdings. Today, there are no less than eight National Libraries (Turin, Milan, Venice, Florence, Rome, Naples, Bari, Palermo), and not one of them is a reference library pure and simple.

It's not surprising, then, that the initiative required by the *Censimento* should have come from outside the library system itself. The *Censimento* was conceived in 1980 and the work of compiling the census is now actively under way. Indeed, the first fruits of the undertaking will be published this year, in the form of a provisional volume covering authors whose names begin with the letter A.

Shunted into the sidings

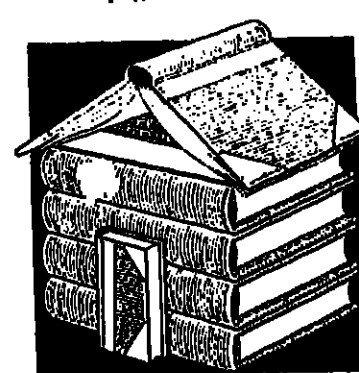
"I'd have liked to be a plumber. At the beginning of the war I was offered the chance of becoming a plumber's 'improver', and I would have learned the trade. But I couldn't get the green card which would have let me move to the job." Instead, Alan Sufolk became a machine operator. He has been ever since. With asthma and epilepsy he is about to end a working life of almost 50 years.

The last 16 of these have been spent in the same job. Alan takes a banjo-part of the car's rear axle—deburs it, tests it in water to see if there are any holes and welds on the brakepipe clip. He does this in batches of 10 banjos at a time, each batch taking about an hour. The job is not stressful, just boring. Alan is worried by the prospect of retirement.

Bob Edwards works in the same plant as a twist-and-bend operator. He checks con-rods, pressing each rod into an electronic gauge which tells him how far out of true, turning the left, hitting it with a hammer and retasting it. The job cycle is 8 to 10 seconds. A massive disc slip has left Bob in a corset, and he's lost two-thirds of his hearing. The com-



Left, a portrait of the poet Ariosto, attributed to Titian, from the 1532 edition of *Orlando Furioso*. Right, the title page of the rare 1521 edition.



The first significant achievement of the *Censimento* was to have secured the collaboration of about a thousand public libraries in Italy—well over 90 per cent of the total—thereby assuring itself of virtually complete coverage of the nation's patrimony of 16th-century books. The organizers have taken note, too, of recent international developments in cataloguing technique. Following the example of the computer-based British *Eighteenth-Century Short-Title Catalogue* (ESTC), they are preparing their material in machine-readable form. Storage of the material on a computer will aid not only its eventual publication in alphabetical order of author, but also the ready preparation of an index of printers and publishers, the printing of catalogue cards for individual libraries, and other useful rearrangements of the material.

Publication is envisaged both in book form and in microfiche. At present, there is no Italian equivalent of the British bibliographical databank BLAIS (British Library Automated Information Service), but the material being prepared by the *Censimento* is capable of being developed into a database, and so it must be only a matter of time—even if that time will

Achieving a second Italian unification

Conor Fahy looks at the census of 16th-century Italian editions and its benefits to scholars worldwide

probably not come until the next century—before scholars inside and outside Italy will be able to have instant access to the results of the *Censimento* on their microcomputers.

The information being gathered from contributing libraries concerns not only books and pamphlets but also single sheet publications such as broadsheets and proclamations. In accordance with the new traditional pattern of short-title catalogue entries, the *Censimento* will give the format of editions, but not the signatures; instead, the organizers are making use, at least experimentally, in the compilation stage, of an ingenious invention of British librarians the "fingerprint", now more favoured on the Continent than in its country of origin. Consisting of a set of characters taken from fixed positions in a book, it can be compiled without specialized bibliographical knowledge by simply following a set of rules, now available in official English, French and Italian versions. Use of this device allows, within reason, accurate long-range identification of copies of the same edition or, alternatively, accurate long-range differentiation of copies of different editions, even when very similar.

For larger libraries a different procedure has been adopted. In order to avoid as far as possible the simultaneous cataloguing of numerous copies of the same edition in libraries

Tom Schuller argues that greater efforts should be made to get unskilled workers back on to the educational rails.

older people is not a good bargain even if many of these will live another two decades, not a couple of years. For all the efforts of the University of the Third Age and other enterprising agencies, there seems to be little sustained effort to redress the enormous intergenerational inequality in education. And, within the older generation, Alan, Bob, and George (all men, because it was a car plant) are part of a substantial group with particular claims.

What about special Educational Maintenance Grants for ex-service people who lost their educational opportunity because of the war—a second chance for a career after work? Why not positive discrimination in favour of those who stayed in manual grades? Or a government code encouraging employers to grant day release on a weekly basis? Yes, it all costs money but it wouldn't be a bad investment if we want a fit and alert older population. Or does the government only reward those who have done military service under its own direction?

The author is at the Institute of Community Studies.

up and down Italy, the Istituto Centrale is producing alphabetical lists derived from all available printed sources, as well as from the cards already received from smaller libraries. The larger libraries begin by checking their holdings against these lists, and only compile cards for editions which don't figure in them.

In recent talks with Italian librarians I have heard some criticism of the *Censimento*. The main one is that it will contain many inaccuracies, as the standard of description asked for is higher than many small libraries can manage, and they are sending back some badly compiled cards, inadequately checked. Even if this criticism is justified, it does not invalidate the census. Better a comprehensive list of 16th-century Italian printing with inaccuracies than no list at all.

Looking at this project from the UK, where even the public library system has now largely gone computerized, and microfiche readers are two a penny, it seems a pity that the organizers are not placing the main stress on publication in microfiche. The *Censimento* in book form is going to be very expensive. Microfiches are not only cheaper, they can be regularly updated with the latest computerized data.

Unfortunately, the organizers are hamstrung by the backwardness of the Italian library system, where computerized catalogues and microfiche readers are rare. They must produce what their major customers, who will also be their major critics, want. But I cannot see any university library in Britain keen to buy the volume scheduled for publication this year. And this would be a pity, as even in its provisional form, it will list about 4,500 editions, which is more than three times as many as those listed under the letter A in the most informative work on 16th-century Italian printing at present available, the British Library's *Italian Short-Title Catalogue*.

At the moment, the activities of the *Censimento* are confined to Italian libraries, though two foreign libraries, the National Library of Scotland and the Bibliothèque de la Ville de Caen, have volunteered to send details of their Italian 16th-century editions. Many such editions survive only in copies outside Italy, and intend, when the work of recording the resources of Italian libraries has been completed, to investigate ways of incorporating these foreign holdings.

But this is for the future. According to their latest estimate, it will take the Laboratoire per la Bibliografia Retrospectiva at least 10 years to complete their alphabetical lists and check the returns. This seems to me, and I expect by now to the organizers, to be an optimistic timetable for final publication in volume form, and I hope that the organizers will be willing to consider publication of unchecked data in microfiche form. The information of the *Censimento* file is certain to be much more comprehensive than that available from any other source, and even unchecked, would be of great use to scholars.

The author was formerly professor of Italian at Birkbeck College, London University.

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ARTS

A new production of Strindberg's *Dreamplay* opened at the Barbican on Wednesday. Review by Richard Allen Cave.

The dissolving of human identity

Dreamplay by August Strindberg, an adaptation by John Barton and Inga-Stina Ewbank in repertory at The Pit, Barbican Centre.

To a remarkable degree John Barton has succeeded in realizing Strindberg's prescriptions for *Dreamplay* in performance - that "time and space do not exist" and that "the characters split, double, are duplicated, evaporate, condense..." This is remarkable because he has followed the spirit rather than the absolute detail of Strindberg's directions.

Dreamplay is, as Barton's translator Inga-Stina Ewbank observes, "bi-tenally chaotic in shape". It needs a strong directional hand. Ingmar Bergman in 1970 re-shaped the work to make it all the visionary experience of the poet-figure, the free-wheeling play of his imagination in the process of creativity, a private struggle to grasp and define the meaning of existence. Bergman deployed an immense cast, using actors in tableaux to create the constantly shifting settings of the piece so that, as the poet moved on his psychic journey, place seemed to dissolve into place. The dreamlike illusion has rather bedevilled the staging of *Dreamplay*: if too spectacular, it can reduce the play to the level of pantomime at the expense of its subtle philosophical argument. Barton's work over the last eighteen months has consistently exploited the necessary scenic austerity of productions in the Pit to illuminate the intellectual structures of the plays he has directed there - Calderón, Wilding, Barker.

Barton quotes in his programme note Strindberg's observation that *Dreamplay* was his "most beloved" drama, but the child of my greatest pain, and he has cut and adapted the play to enhance its profound exploration of the relationship between love and woe. Professor Ewbank says that Blake much preoccupied her thoughts while in the throes of translation; and

Penny Downie as the God's Daughter gives a brilliant portrayal of a girl hungry for Experience, for an understanding of human misery, while desperate to retain some hold on her radiantly laughing innocence. The philosophy of the play is so telling, because Barton has allowed Strindberg's dualistic vision to inform every aspect of his chosen production-style. A cast of ten share the forty odd parts of Strindberg's original between them: here it is not the scenery that dissolves and coalesces but human identity. Each actor has an array of types to portray suited to his age and style but distinguishes between them with considerable virtuosity; every persona speaks of dejection or demonstrates some form of obsession, pettiness or cruelty; yet the effect of the multiple role-playing is to intimate the rich diversity and potential of human kind even in the face of despair.

In the single role of the Officer, Roger Allam changes, as required, from youth to age and back, forever frustrated in his quest for an ideal love yet never losing the wide, expectant eyes and the high, pure-timbered voice of a boy. This child is indeed father to the man - an emblem of absurdity perhaps, but also of fidelity; he is an endearing eccentric, his folly being his saving grace.

All of this greatly assists Simon Templeman to make a credible character of the difficult role of the Poet - here a man whose brutish manners and plain speaking mask penetrating insight into human ills and fathomless compassion. He is the obvious companion for the God's Daughter to turn to, the only one to whom she can communicate her divine knowledge: however intense his anger, he never loses the capacity both to care and, caring, to create. How apt as a consequence is Strindberg's direction that the Poet be seen first at a potter's wheel moulding mud and water into a thing of beauty: it is the perfect metaphor for Strindberg's artistry in composing *Dreamplay* and for Barton's artistry in staging it.

Next week Methuen publishes *The Citizen Kane Book*, comprising the complete screenplay by Orson Welles and Herman J. Mankiewicz and one of Pauline Kael's famous essays, "Raising Kane". The book costs £6.50.

Events

Continuing exhibitions:

- Ends on Sunday. Hayward Gallery, London. Edgar Degas: the painter as printmaker.
- To July 14. City Art Gallery, York. *The Wonder of the North*: paintings, watercolours, drawings, prints and watercolours. Fountains Abbey and Studley Royal.
- To July 14. Royal Academy, London. *Edward Lear 1812-1898*.
- To July 21. City Art Gallery, Manchester. *American in Glass*: 1980s art glass.
- To July 21. Courtauld Institute, London. Drawing by Donat.
- To July 27. John Hansard Gallery, University of Southampton. Duane Michals: photographs/sequences/texts 1958-1984.
- To July 27. Impressions Gallery, York. Portrait photography by Sirrka-Lisa Kontinen. Sue Packer and Roger Birch.
- To July 28. Museum of Modern Art, Oxford. *Therese y Libertad*: photographs of Mexico 1900-1935.
- To July 28. Ferens Gallery, Hull. Exhibition commemorating the fiftieth anniversary of the death of Winifred Holtby, author of the novel *South Riding*. Documentary material, plus a selection from the gallery's permanent collection to illustrate "The Four Riders".
- To August 3. Hunterian Gallery, University of Glasgow. *Landscape into Line*: 17th-century etching and engravings.
- To August 15. Yorkshire Sculpture Park, Bretton Hall College. California Sculpture Show.

To August 18. Walker Art Gallery, Liverpool. *Munch and the Workers*.

To September 1. Museum and Art Gallery, Birmingham. *A City at War: Birmingham 1939-45*.

To September 1. Victoria and Albert Museum, London. *English Caricature 1620 to the Present*.

To September 1. Salisbury Centre, University of East Anglia. Foster Associates: major architectural projects from the designers of the Salisbury Centre.

To November 3. National Museum of Antiquities in Scotland, Edinburgh. "I Am Come Home": treasures of Prince Charles Edward Stuart; including a pair of leather brogues he wore while disguised as Flora MacDonald's maid.

New exhibitions:
From July 6. Hatton Gallery, University of Newcastle. *Sill Life: a new life*.
From July 12. Marylebone Road Gallery. Polytechnic of Central London. Exhibition of the PCL School of Architecture.
From July 13. The Darkroom, Cambridge. *Re-Vision: 'Private Intimacy' in British photography in the 1980s*.
From July 16. Fitzwilliam Museum, Cambridge. Cambridge Festival Exhibition: Elizabeth Frink, sculpture and drawings.

Other events:
Tonight, tomorrow. Drama Studio, University of Sheffield. University theatre group in Joan Littlewood's *Oh, What a Lovely War*.
Tonight, tomorrow. Glynn Wickham Studio Theatre, University of Bristol. Drama department production of *The Tempest*.



The film producer Michael Balcon, photographed by Coster, 1936.

A reporter of faces

Howard Coster: camera portraits of the twenties and thirties. National Portrait Gallery until September 8, 1985. Howard Coster's Celebrity Portraits by Terence Pepper. National Portrait Gallery in Association with Dover, £5.95. ISBN 0 486 24892 5.

When the young Jessica Mitford first became infatuated with the idea of her dazzling communist cousin Esmond Romilly, she was transfixed by a photograph of him in front of his notorious book *Out of Bounds*. "I had seen other pictures of Esmond in the papers", wrote Mitford in *Hans and Rebels*, "but these had been for the most part unsatisfactory candid shots, revealing little of his personality." Here he was stern, sardonic, preoccupied - exposed, in other words, by the art of a good portrait photographer.

It was Howard Coster who took this picture of Romilly, and it is Coster's illuminating art that the National Portrait Gallery is celebrating this summer in an attractive and well-documented new exhibition, drawn from a substantial collection of his negatives inherited from the Central Office of Information via the British Council.

Coster was born in 1885 and went

through a five-year photographic apprenticeship in an Isle of Wight studio run by his brother. The tedium and mess of developing and printing wet negatives drove him in 1906 to South Africa where he tried his hand at farming. After this failed, he set off on a bicycle, with a tent for a makeshift dark-room, and made his way round Orange Free State, taking shots of itinerant cattlemen and paying for his board and lodgings by giving free sittings.

In 1926 he returned to England, an established professional but also something of an outsider. He set up his London studio off the Strand, deliberately avoiding the area in which lay the photographer's easiest path to fame and fortune - Bond Street, with its high-society portraiture - and defiantly by joining himself "Howard Coster, Photographer of Men". What Coster meant by the tag was not so much "no women" as his preference for people of public achievement and intellectual or artistic stature.

After disastrously deciding to open his doors during the General Strike, Coster soon found his niche. The leading photographer of the day E. O. Hoppé had just moved to new fields, leaving Coster to fill his regular spot on the monthly *Bookman* magazine. An intense and bookish man, Coster was at his happiest with writers, and they

were happy with him. Over the next ten or so years, he took pictures of most of the leading figures of the day, including Shaw, Maugham, and Wells. After *The Bookman's* demise, he was headhunted for Allen Lane's shiny new paperback venture, Penguin Books, to which he contributed a large number of the small author's portraits which used to feature on their inside covers. Later in the 1930s he also worked for the short-lived *Bystander*, a magazine half-way between the *New Yorker* and *The Tatler*, producing some elegant portraits of film and theatre personalities. Terence Pepper, author of a critical essay in the book published in connection with this exhibition, is of the opinion that Coster's change in 1939 to the war to a more portable 35mm Contax camera cramped his talents, and that the photographs that he continued to take up to his death in 1959, are comparatively flat and dull - unfortunately, neither the exhibition nor the book give one a proper chance to judge.

Coster's style was not immediately distinctive or arresting. He did not cultivate the grainy intensity of Bill Brandt or the fantasies of another contemporary, Cecil Beaton. He preferred low-key, subtle lighting (never using more than a single blue flood with a reflector for studio shots) and his compositions are similarly understated. Although he deplored the inert conservatism of the run of British studios and championed Man Ray and Moholy-Nagy, he himself experimented only tentatively with the innovations of "solarization" (producing by this method the portrait of Michael Balcon, left) and expressionist lighting. An ambitious project for a photographically illustrated Bible had to be abandoned. Where he excelled was in communicating a direct force of personality. There is a savage sharp profile of the young Evelyn Waugh and a cool look at a brutally worldly Arnold Bennett and an impatient C. Day-Lewis. T. E. Lawrence is shown ill at ease, Hitchcock puffed up with malvolence next to his obvious wife, A. A. Milne wrapped in an angelic Christopher Robin and Peggy Ashcroft curled up vulnerably in an armchair have more gentleness and warmth; and Rex Whistler's charm is suggested without effacement.

The group portraits are generally less convincing. The famous Auden-Spender-Isherwood image looks stagey, as does the bizarre trio of John, William, and Michael Rothstein. The occasional piece of daring, as a mysterious picture of the three women stage designers Motley, rapidly commencing over some unseen object, make one wish for more of this kind of spontaneity.

Coster was, in sum, not the "photographer as painter", but, as Jessica Mitford's reaction evinces, a skilled reporter of faces, with real psychological insight and a high degree of technical competence. The exhibition is a fascinating tribute to his self-effacing and truth-telling art.

Rupert Christiansen

Future stars of the baton

A young conductors' competition was held this year at the Prague Spring Festival (12 May-4 June). The festival itself was founded in 1946, originally to celebrate the fiftieth anniversary of the Czech Philharmonic Orchestra. Although it naturally promotes Czech music, Czech culture does not dominate - indeed, the aim has always been to juxtapose it with other cultures. This was again shown at the competition which offered a useful comparison of educational standards. Apart from 30,000 crowns (about 10 months' average salary in Czechoslovakia), the winner was guaranteed two concert tickets the following season, and a concert at the next Prague Spring with the Czech Philharmonic Orchestra, with whom he was also to make a record. Small wonder that the festival committee received 117 applications from 30 countries.

There is a school of thought which places emphasis on prior orchestral training for conductors. Many well-known conductors did in fact start as performers - Charles Mackerras as an oboist, Colin Davis a clarinetist, André Previn a jazz pianist; Toscanini, of course, played the cello. Indeed, one of the best Czech conductors after whom the competition was named, Václav Talich, was himself originally a violinist, as was Václav Neumann, one of the jury members.

In Czechoslovakia and many other

European countries conducting is an individual discipline at the conservatoire (although one has to study an *obligato* instrument). At British colleges, however, it is usually taken up after the candidate has studied an instrument for several years, and thus the orchestral training and ensemble are stressed again.

The repertoire at the competition was predominantly Slavonic, as was the jury, but only one of the three winners was a Slav. The prize-winner, the youngest of the three, was Pierre-Michel Durand, student of Pierre Dervaux at the Paris Conservatoire and later at the Salzburg Mozarteum with M. Horvat. Last year, this 22-year-old Frenchman was Giulini's assistant in London. The second prize went to the 29-year-old Nikolai Alexeev, former student of M. A. Jansons at the Leningrad Conservatoire, and now a conductor at the Kirov Theatre of Opera and Ballet. The third prize was won by a 28-year-old Japanese, Yukio Kitahara, son of a traditional musician, and from 1983 a student of E. Sapezbauch in Innsbruck. A Czech with a Hungarian name, Oliver Dohnányi, won an honorary award.

In the first round, all three conductors played the same pieces: Beethoven's *Egmont* and one movement either from Dvořák's 7th or 8th symphonies. The second round included a movement from a Mozart Symphony

(No 40 by Durand and Alexeev, No 39 by Kitahara), and a movement from a Brahms or a Beethoven symphony.

It was the third round which perhaps gave the best view of the winners' inclinations and future development. Pierre-Michel Durand conducted the third movement of Dvořák's *New World Symphony* and the fifth movement of Bartók's *Concerto for Orchestra*. Nikolai Alexeev chose an all-Czech programme of Smetana's *From Bohemia's Meadows* and Janáček's *Sinfonietta*, while Yukio Kitahara presented movements from two symphonies of the same number, Dvořák's 9th (first movement), and Shostakovich's 9th (fourth and fifth movements).

For a young conductor in Czechoslovakia, the country offers a dense network of chamber and symphonic orchestras as well as opera theatres. In Britain, on the other hand, young adepts of this art often start working with good amateur and semi-professional choirs. To give young conductors at the outset of their careers an opportunity to work with a renowned orchestra is a great encouragement. Prague Spring has always prided itself on introducing future stars. Let us hope that this tradition will remain unchanged.

Mirka Zemanová

BOOKS

Calling evolution to account

by Paul Harvey

The Problems of Evolution

by Mark Ridley
Oxford University Press.
£12.50 and £13.95
ISBN 0 19 219194 2 and 289175 8
Evolution: a theory in crisis
by Michael Denton
Burnett Books: Hutchinson, £17.50
ISBN 0 09 152450 4

Scientists who think seriously about the origin of species believe that the awesome diversity present in the natural world is a result of gradual evolution. Furthermore, natural selection is accepted as a primary guiding force of evolution. These truths being almost universally acknowledged, we may ask why evolutionary biology continues to provoke controversy some 100 years after the death of Charles Darwin?

There are at least three different answers to that question, with their respective advocates: the "scientific creationists", the evolutionary biologists, and the sceptics. Scientific creationists believe that evolution did not happen, basing arguments on the assumption that divine intervention has, on occasion, broken the fundamental laws on which the sciences are based. Consequently, their assertions cannot be disproved using generally accepted scientific methods; they are not scientific. Evolutionary biologists, on the other hand, are attempting to specify and solve the many problems still posed by their science. The sceptics, a mixed bunch who present no unified front, assess the evidence presented by evolutionary biologists and argue that the facts cannot possibly be explained by the available theories.

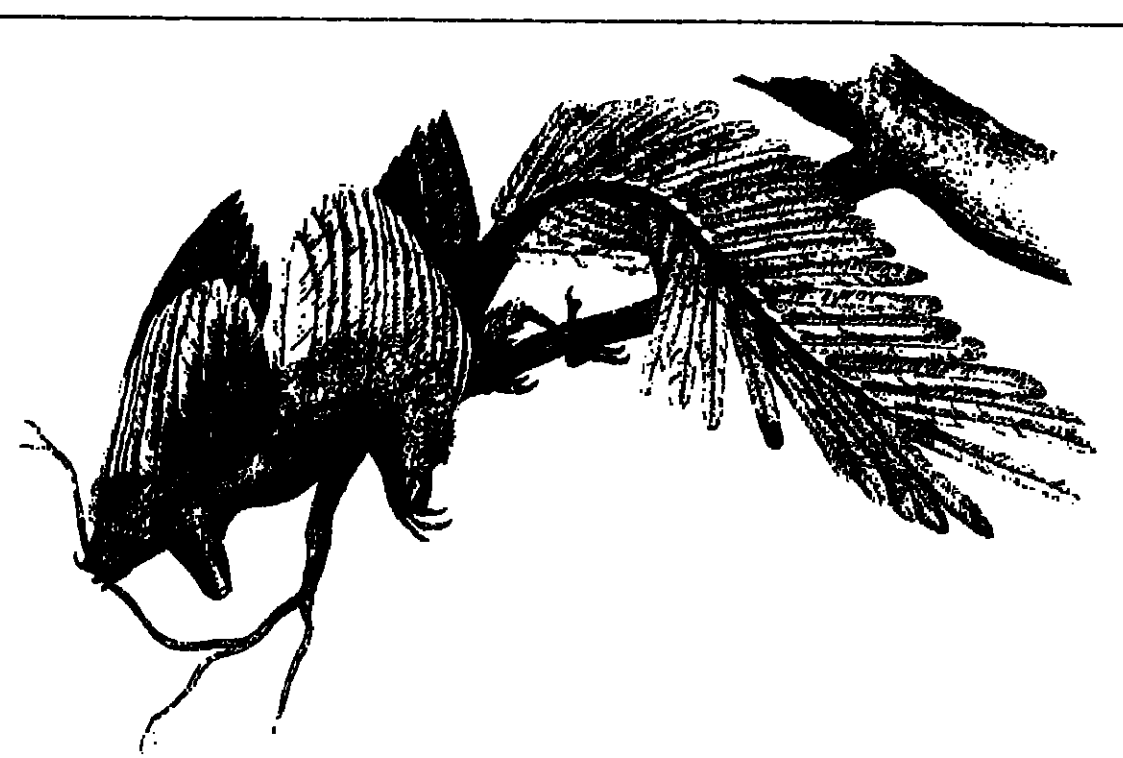
Mark Ridley is an evolutionary biologist, and his book attempts to outline the problems with which he and his colleagues are grappling. As with any area of science, there are arguments about who is right and who is wrong on particular issues. All that the popular writer can usually do is to present those issues clearly, together with the cases argued for the advocates of particular solutions. Ridley, however, has sometimes been able to go beyond that by pointing out flaws in particular theories. Michael Denton, a molecular biologist currently working in New South Wales, Australia, has produced the most comprehensive sceptical account of evolutionary theory that I have seen. Not to be confused with either creationists or evolutionary biologists, he accepts the

tenets of science but believes that the scientific method demonstrates the inadequacy of neo-Darwinian evolutionary theory. On his own admission, he has nothing to put in its place. Just because you can demonstrate that a theory is wrong does not mean that you can specify an alternative theory that is correct.

Ridley's and Denton's books, therefore, reach different conclusions. It may be that each is right but only in part. This would mean that some of the problems discussed by contemporary evolutionary theorists have already been solved and that Denton's criticisms are redundant, while other problems would require the development of new theories. The answer, of course, lies somewhere between the extremes: the question is where?

In my opinion, Ridley's accounts are much nearer the truth than Denton's. For example, Darwin was painfully aware that the fossil record is replete with gaps that cover enormous portions of geological time. Most of those gaps remain unfilled, possibly because soft-bodied remains have not survived anywhere on Earth. The further back we go in time, the less likely it is that fossils will have persisted to the present day. There is, therefore, a lack of material from those early aeons when the major groups were evolving from each other. Ridley argues that the fossils have apparently been lost, whereas Denton claims that they may never have existed. Some missing links do exist such as *Archaeopteryx*, which has characteristics in common with both birds and reptiles. Denton makes the astonishing claim that no important missing links have been discovered since Darwin's day. But what about the major fossil finds that have elucidated the evolution of our own species from ape-like ancestors? Denton would do well to ask himself whether those remains would have survived in situ for another few million years. The answer is that they would not have survived. Another gap would have been created in the record.

What about patterns of evolutionary change? Ridley points to contemporary studies which demonstrate that, in the most complete and recent sedimentary records, deposition probably occurred during about one quarter of the time over which the strata were laid down. This means that no records were left for the other three-quarters of the time. Of course, long periods of sedimentation will have been punctuated by even longer periods during which fossilization did not occur. The resulting tale in the



Archaeopteryx, a missing link in the evolutionary chain.

rocks will be one of periods of apparently rapid change being punctuated by periods of stasis or gradual change. When this pattern is evident, it provides no real challenge to evolutionary biologists like Ridley, but to Denton it provides yet another supposed nail for the coffin of evolutionary theory.

Denton also uses taxonomy to fire scepticism, arguing that the apparently hierarchical nature of biological classification is a phenomenon that would not be expected to result from evolution. A hierarchical classification is one in which lower groups share more characters in common. For example, all vertebrates have backbones, but within the vertebrates only mammals lactate. Why, Denton might ask, do other vertebrates not lactate? The evolutionary biologist would reply that there may have been a single origin of lactation around the time when mammals separated from the rest of the vertebrates. Why, then, do females of all mammal species lactate? The answer would be that, ever since its origin, lactation has been favoured by natural selection. Denton reasons that traits like lactation might be expected

to have evolved in many taxa, while selection is unlikely to have favoured the maintenance of lactation in all groups of mammals. The sensible reply to this is that many traits are ephemeral, cropping up time and again over evolutionary time - brown coloration, for example.

If we classified organisms on patterns of coloration alone, what strange bedfellows we would get. Caterpillars that are cryptic against their food plants might be classified with those food plants. Different species of butterflies that mimic each other would be placed together. Instead, taxonomic characters are carefully chosen to be those that reveal hierarchical structure. Many pre-Darwinian biologists believed that such a classification gave insight into the workings of the mind of the Creator. Evolutionary biologists believe that they are uncovering the true phylogenetic tree. Reading Ridley's account of the principles of classification followed by Denton's chapter on the taxonomic case against evolution provides the simplest comparison between the books. Whereas Ridley's chapter is clear and logical, Denton's is simply confused.

Again, whereas Ridley points to the success of homology as a defence of evolutionary theory, Denton uses the same data to attack the same theory. The universality of the genetic code is used by Ridley to support evolutionary theory but, astonishingly, by Denton to refute it.

A recurrent theme in Denton's book is that evolution could not have happened because there has not been time or opportunity, citing in support of his case the astronomer Fred Hoyle as a "world authority" on the topic. By comparison, Ridley stands on the shoulders of giants (among them R. A. Fisher, Sewall Wright, J. B. S. Haldane and John Maynard Smith) whose many books and articles demonstrate that there has been both time and opportunity. Denton believes that the problems of evolutionary theory are too great to be solved within the neo-Darwinian perspective. Ridley believes the opposite. In my opinion, Ridley is more nearly correct.

Paul Harvey is reader in biological sciences at the University of Sussex, at present on secondment to Princeton University.

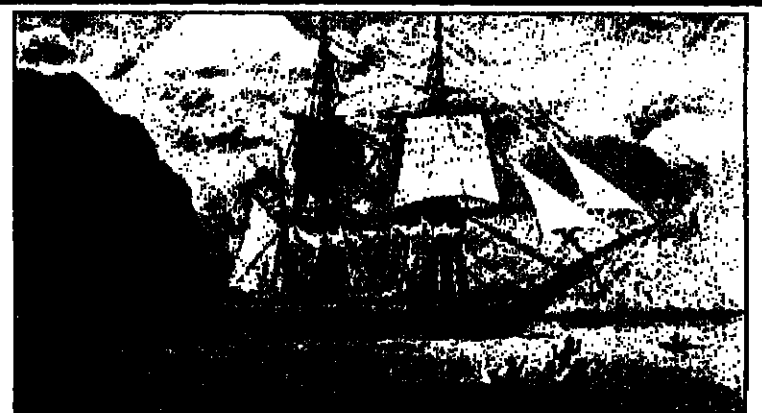
On board the Beagle

The Correspondence of Charles Darwin

Volume one: 1821-1836
edited by Frederick Burkhardt and Sydney Smith
Cambridge University Press, £30.00
ISBN 0 521 25587 2

For the past hundred years, selections from the correspondence of Charles Darwin have appeared in a variety of places, including his own *Life and Letters* (1887) and *More Letters* (1903). As a result, the first half of a letter might appear in one collection, part of the second half in another collection, and the rest deleted for apparent lack of interest. For several years a group of Darwin scholars has been collecting as much of Darwin's correspondence as they could find in preparation for publishing it in chronological order in successive volumes. This first volume of 337 letters and 535 pages begins in 1821 with a letter to Charles age 12 from Mary Congreve, an elderly friend of the Darwin family, and ends in 1836 with a letter from Captain FitzRoy after the two men had returned to England from their voyage of the *Beagle*. By comparison, this same time period occupies only 112 pages in Darwin's *Life and Letters*.

The early pages of this volume cover Darwin's youthful fascination with



H.M.S. Beagle in the Straits of Magellan.

leeches, his two abortive years at the University of Edinburgh, his pleasant undergraduate study at the University of Cambridge, and his hurried preparations in 1831 to accompany Captain FitzRoy on the *Beagle* as a companion/naturalist. For his part, Darwin was giddy with anticipation - "as for sickness I utterly scorn the very name of it". Darwin was hardly out of port when he became "unspeakably miserable from seasickness" an ailment that was to plague him throughout the voyage.

Except for the first 127 pages and the last 30, the letters included in this volume were written to and from Darwin during his nearly five years at sea. The official reason for the voyage of the *Beagle* was to survey the western coast of South America, the accuracy of this survey can be gauged by the excitement caused by the discovery of an error of four miles in the meridian

distance between Bahia and Rio de Janeiro in Brazil. Darwin spent his time making observations on the geology and inhabitants of the lands they visited. Because we today are interested in Darwin chiefly for his theory of evolution, and he did not begin to take the idea of organic evolution seriously until after his return to England, the letters in this volume are liable to be of least interest to the general reader. Indeed, one searches his letters for anticipations of his future great contributions with scant success. No ominous chords sound as Darwin approaches the Galapagos Islands. In several letters written in the summer of 1835, Darwin mentions how anxious he was to study these piles of volcanic rock. Next we know he is in New Zealand and the Galapagos Islands receive only a passing reference or two. But this is as it should be. The few weeks that Darwin

spent exploring these islands are important only in retrospect.

The letters that passed between Darwin and members of his family give a good picture of life among the upper middle classes in England at the time. Among the women, engagements, marriages and confinements were the chief topics of concern. Prior to leaving on his voyage, Darwin had exhibited more than a passing interest in Fanny Owen, but no sooner had he set sail than rumours began about an impending engagement between Fanny and one John Hill. When this match failed to materialize, Fanny was distraught. Robert Biddulph, who was courting Fanny's sister Sarah at the time, was so impressed by her sorrow that he jilted Sarah and began to pursue Fanny. To everyone's dismay, Fanny accepted Biddulph's marriage proposal, despite his "dissipated, gambling character". Robert Biddulph turned out to be a considerate husband, but his mother and sister were quite another matter. Thereafter, Fanny was constantly referred to as "poor Fanny", especially when her health began to fail. As confining as life was for women of this class, the men fared hardly better. As Fanny's father, William Owen, Sr. remarked in a letter to Darwin from his country estate, "we are going on much in our usual hum drum style, a little hunting, a little shooting and now and then a little argument about the Reform Bill".

Prior to his voyage Darwin had also prophesied that his elder brother, Erasmus, would find himself "tied neck and heels" to Emma Wedgwood and would soon become "heavily sick of her". As it turned out, Erasmus

never married but settled into the life of a respectable dandy, occupying himself with a "little round of visits about London". Erasmus did take on a clerk's position in 1835 but abandoned it in three weeks, observing that "whatever people may please to say literary leisure is better than work". Throughout his voyage, Darwin repeatedly apologized to his father for the expenses that he was incurring; he seemed genuinely concerned that he was not occupied in some form of gainful employment. If Erasmus shared these concerns, we do not read of them. Darwin's sisters frequently remark on their elder brother's idleness and indolence, but these expressions reveal no remorse. A life of leisure was a respectable option at the time. Charles Darwin's uneasiness notwithstanding, and it was Charles not Erasmus who ended up marrying Emma Wedgwood.

Although the general reader is likely to find many interesting tidbits about life in Victorian England in this first of more than 20 volumes of Darwin's correspondence projected, the editors intend them to serve primarily as a "sound basis for future scholarly work on Darwin and his correspondents". If this first volume is any indication, they will serve this function admirably. The scholarship is impeccable and the presentation clear and informative.

David Hull

David Hull is professor of philosophy at Northwestern University. *Evandou, Illinois*, and author of "Darwin and his Critics" (1973).

BOOKS

Inheriting a system

Modern India: the origins of an Asian democracy
by Judith M. Brown
Clarendon Press: Oxford University Press, £22.50 and £9.95
ISBN 0 19 313124 4 and 822859 7
Indian Business and Nationalist Politics 1931-39: the indigenous capitalist class and the rise of the Congress Party
by Claude Markovits
Cambridge University Press, £22.50
ISBN 0 521 26851 7

For all the long-standing British involvement with India, and the current national obsession with the memorabilia of the Raj, we are still poorly served with general accounts of the modern history of the subcontinent. Judith Brown's *Modern India* is the first new detailed introductory account of the subject to be widely available in Britain for many years.

The Short Oxford History of the Modern World series, of which this volume forms part, is intended to give students and others access to the history of fresh geographical areas. J. M. Roberts, the general editor of the series, defines in his preface the modern world history as that in which the fundamental institutions of modern European society first took shape and then spread round the world. The periods in which European institutions, ideas and political forms were imported into different parts of the world are the epochs in the histories of those countries "in which can be discerned the processes which eventually tie them into the single world in which we live". What the historian of the extra-European world is asked to trace, then, is the process by which European gradually became world civilization. While a series such as this must rest on some sort of underlying assumptions, one must doubt whether these ones are wholly appropriate for the study of an Asian country. Eager acknowledgement of tutelage from Europe was far from universal in such places. When Gandhi was asked by an American reporter what he thought of western civilization, he replied: "I think it would be a very good idea".

Dr Brown's account of the modern history of India takes, perhaps inevitably, a somewhat Eurocentric view of events. She argues in her introduction that contemporary India is the product of a long historical interaction between "a stable society and venerable culture and forces created... in the circumstances of British rule". The avowed aim of the volume, "to examine the making of this rare political phenomenon, an Asian democracy", echoed in the subtitle, suggests that the western, specifically British, contribution to the making of modern India is seen as decisive and benign.

Yet this approach does provide an organizing principle for the book that



An engraving by N. T. Charlet from his *Memorial de Sainte-Hélène* showing the exiled Napoleon Bonaparte dressed for gardening. The picture is reproduced from Jean Tulard's *Napoleon: the myth of the saviour* which is now available in a Methuen paperback at £7.95.

allows a more subtle and satisfying overall interpretation of the history of India in the first half of the 20th century than any other on offer. The concern to seek the roots of the relative political stability of post-independence India in her colonial past leads Dr Brown to lay stress on the 1930s as the key decade in deciding the form of modern India's political system, on the importance of the Indian National Congress's role as a party system as much as an agitational force in achieving independence, and on the complex interplay of a balance of interests and viable modes of control in determining the ends, and the end, of empire.

Throughout her book Dr Brown provides a coherent and competent summary of a wide range of recent specialist research. Her interpretation of detail builds on the foundation of the modifications of the classic imperialist and nationalist historiographies that were made, in Britain and Australia, as a result of the thesis-boom of the late 1960s and early 1970s. More recent assaults on this consensus, by Gramscians and others, have largely been ignored, which is hardly surprising given the very different nature of the story that such

scholars wish to tell about the history of modern India. Overall, Dr Brown's book represents by far the best recent introductory account of the modern history of India for British readers. But this last qualification is an important one, for the author's main concerns—the stability and continuity of India's society, the resilience and openness of her polity—are in a sense more British than Indian and have been very much those of British opinion (the liberal sections of it at any rate) on South Asia for the last century or so.

Claude Markovits's *Indian Business and Nationalist Politics* is an attempt to tackle one of the riddles of modern Indian history that Dr Brown largely ignores—that of the links between big business and the nationalist movement. The desire to see the Indian National Congress as the tool of a national bourgeoisie was strong among conservative British officials at the time, and has attracted many Indian Marxist commentators and historians since. It must be one of the few views that Beverley Nichols and Rajani Palme Dutt shared in their analyses of Indian politics. Despite this widespread support for the idea, however, Markovits argues convincingly that the distinguishing feature of capitalists in

History of dirty tricks

The German Empire 1871-1918
by Hans-Ulrich Wehler
translated by Kim Traynor
Berg, £18.95 and £6.95
ISBN 0 907582 22 2 and 32 X

At last we have a translation of this minor classic which appeared in German some twelve years ago. It is not a "seminal" book—rather a point around which the ideas of others crystallized in clear but predetermined form.

The German Empire is the product of 1968 and all that this year stood for. Its author has hauled his *quos ego* into Bismarck's empire and its court historians; he has written a remarkably forceful yet brief indictment. What we have is socialist structural history in test-tube purity with all its strengths and weaknesses: no other history of Germany from 1871 to 1918 had been so widely read and discussed; none had been remotely as successful in critically shaping the difficult material. Unfortunately it is lit from one side only and many of the facts are either inaccurate or misinterpreted.

Wehler's diagnosis is that the empire suffered congenital disease. It was able to keep up with technological change and even in some cases to set the pace. But its leaders strove consistently and at the end, recklessly to thwart the corresponding social and political evolution. Here we have the key to imperial politics which were, he thinks, very largely the history of attempts by the establishment to remain in power. The book has virtually nothing on foreign policy apart from

the assertion that it should be seen as a grand attempt to direct the attention of Germans from their real problems: the power struggle between states was practically irrelevant and seen to be irrelevant. Few will be taken in by such absurdities, and this is surely the weakest part of the book. But having said this, it is equally true that the large number of distinguished historians who have argued that German foreign policy was *das Ding an sich* are just as wide of the mark. Perhaps we needed Wehler to remind us that extreme views, however clear and convincing, are seldom true.

At home, he writes, the establishment had a large basket of policies, devices and dirty tricks to keep the rest of society occupied and satisfied so that they could continue their own feudal ways as much as possible. What they did was to adopt some of the trappings of modernity so as to fend off its substance. First of all a "Victorian compromise" was attempted: the large landowners were joined by the powerful industrialists to create the impression that the establishment was opening up, but they hoped with justification that the wealthy bourgeoisie would be feudalized. Then the devices of authoritarian rule were applied: building on a tradition of respect for the state, the bureaucracy (which despite what Wehler says was becoming increasingly liberal in the late 1870s) was cleansed; it worked efficiently in an expanding sphere and in an ostensibly objective but actually reactionary spirit. The army was not only codified, it was revered. The military and what it symbolizes enjoyed more than mere respectability. As the pull of Christianity slackened, that of the army strengthened. The aloof courts meted out class justice, and the poor were taxed. The excellence of the schools and universities was used as a cover to inculcate respect for the social and political status quo.

In addition to this lengthy list of mostly well-known practices, there were also the more dubious "Napoleonic" tricks. The parties were kept in disarray and so parliament remained weak; foreign enemies and apparently unpatriotic elements at home were singled out for abuse so as to unite the rest of the country in hatred (but since Poles, Jews, Catholics and socialists were targets, one wonders what was left to unite). Then there was the flashy foreign policy aimed at obtaining cheap but impressive victories. This was the circus for the German people. There was bread as well because the social reforms—and they were significant—are not seen as evidence of a trend towards democracy but only as ways for manipulating the populace.

Wehler's book is not traditional narrative history; it is a discussion of these policies, devices and tricks. It is one-sided, but it is also critical, perceptive and vigorous. Kim Traynor's translation is a great deal more transparent than the original and all who have struggled with Wehler's pretentious and opaque German prose will appreciate the flowing and idiomatic English text.

Yet the aim of Aldrich and Leighton in partnership is to persuade us that a new Education Act is desirable. Their proposal is for legislation rather than litigation. True, they argue that the authors of the 1944 Act failed to provide clear definitions of the duties

late colonial India was their weakness, their inability to gain direct political control of the country. In establishing this point he also provides an interesting and stimulating account of the detailed interplay between the activities of businessmen, Congress leaders and British officials, and a most useful sketch of the development of Indian business firms in the 1930s.

Dr Markovits' work appeared too late for Judith Brown to have made use of it, even had his concerns been nearer to her own. Yet her view of the British contribution to South Asia can only be strengthened by the appearance of this study of modern India by a young French scholar that was researched and written entirely in English. There is one other convergence between the two authors that will help some to place them in the cosmography of modern Indian studies. Both of them, and this reviewer, share a common research supervisor in Dr Anil Seal.

B. R. Tomlinson

Dr Tomlinson is lecturer in economic and social history at the University of Birmingham.

Bruce Waller

Bruce Waller is senior lecturer in history at University College Swansea.

BOOKS

Political will

Education: Time for a New Act?
by Richard Aldrich and Patricia Leighton
Bedford Way Papers, £2.50
ISBN 0 85473 217 0

"Forty years on" is the prevalent mood in Europe as the end of the war is remembered. In the same spirit, Richard Aldrich and Patricia Leighton here re-examine and review the Education Act of 1944. There is an apt if unusual partnership—a historian and a lawyer asking together whether the time has come for a new Act. We don't normally think legally about law. The customary source of demand for new legislation is political or social discontent expressing itself through parties and pressure groups and seizing its opportunity at some moment of parliamentary power.

The political or social impulse is thus towards legislation and the collective declaration of some purpose or intent to which, at least for the time being, the nation is committed. The impulse is typically not towards litigation: that is quite another matter. Legislation and litigation are not works which trip lightly from the popular tongue, but the concepts behind them are distinguished sharply in the popular mind. Legislation, by and large, is reasonable business in so far as politicians are reasonable; at least it is a possible vehicle of popular priority and citizen's right. Litigation is lawyers' business and lay attitudes towards it are more or less those of Charles Dickens as dramatized in his account of *Jarmydye versus Jarmydye*: it is, in other words, an unprofitable business in which reason is buried beneath a paper mountain of lawyers' jargon and justice subverted to legal costs and judgments. Law in this tradition is revered as the repository of what is morally right, but lawyers are held in disrespect as practitioners with motives other than to do what is right. A people possessed of such opinions is likely to be deeply suspicious of any proposal which transfers conflict from politics to law and is never likely to show eager enthusiasm for new law.

Yet the aim of Aldrich and Leighton in partnership is to persuade us that a new Education Act is desirable. Their proposal is for legislation rather than litigation. True, they argue that the authors of the 1944 Act failed to provide clear definitions of the duties

Reading lists

Higher Education in International Perspective: a survey and bibliography
by Philip G. Altbach, David H. Kelly and Jan Klaczynski
Mansell, £37.50
ISBN 0 7201 1707 0

Most of this book—491 of its 583 pages—is a bibliography of books and articles about higher education, and especially research into higher education. It is divided into 23 broad subject areas, and each of these, in its turn, subdivided, with one subdivision for each of the continents of the world. Appropriately, the first section deals with the history of universities and higher education. Later sections cover such topics as statistical and descriptive works, policy and planning, access, theories of higher education, research, and governance and administration. Five different areas related to students, including activism and adjustment to higher education, are covered. Especially useful is the section that provides a bibliography of bibliographies.

There can be no doubt of the need for a bibliography of this kind. Those of us who try to study, and write about, the various problems of higher education are in constant need of some way of discovering what others have written before us. Its usefulness, however, depends on how comprehensive its listing is and how easily the reader can find his way to the references he wants.

J. R. Pole

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Taken on a civil rights march in 1965, this photograph is reproduced in *This Mighty Dream: social protest movements in the United States* by Madeleine Adamson and Seth Borgos (Routledge & Kegan Paul, £15.95 and £8.95).

and powers of the partners in education—central government, local government, governing bodies, teachers and parents. (They do not include students because their hitherto are limited to primary and secondary schools.) True too that they note an increasing tendency for judges and legal commentators to enter this web of power relationships, especially since the 1960s. Judges will now occasionally pronounce on what ought to happen, as did Lord Denning in 1979 when he forthrightly backed the parents against the local education authority, the unions, and the Secretary of State, who between them had, in effect, allowed the caretakers in the Haringey schools to bring the borough's educational system to a halt for weeks on end. True even that legal writers have turned their attention lately to parents' rights, choice of secondary school, matters of discipline, and the role of the local ombudsman in education. But generally speaking the British habit in cases arising out of social legislation is that courts do not get mixed up with conflicts if they see them as matters of political judgement or policy rather than legal ones. Aldrich and Leighton themselves seem to accept that educational policies are to be fought out elsewhere than in courts of law. They remark sadly that meanwhile cases are "frequently highly emotional, badly argued before the courts and unsatisfactorily decided".

Harewood versus the Polytechnic of North London is very much a case in point. Readers of this lively and succinct account of the ramified educational partnership will have to agree with the

There are two essays. The first, by Philip Altbach, sets out succinctly the structure (if that is the appropriate word) of research into higher education—where it is done, where it is published, how it is funded, the topics it covers, and so on. The second, by Jan Klaczynski, does a similar job for research in Eastern European countries. Anyone thinking of taking a sabbatical there will be helped by the lists of who is doing what research where.

One discovers, without surprise, that, give or take some differences of emphasis and terminology, the topics of research in the Eastern bloc are the same as elsewhere. Klaczynski says: "Educational needs always overgrow real possibilities of their realization even in the most affluent countries of the world. Therefore a question arises: how is the system of education to develop, and how is its final shape to be curved to assure the most rational way of utilization of all the material and human resources allocated to education?" This has a familiar ring.

Ernest Rudd

Dr Rudd is reader in higher education studies at the University of Essex.

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The Athlone Press 44 Bedford Row London WC1R 4LY

Colonial lessons

Saints and Revolutionaries: essays on early American history
edited by David Hall, John M. Murrin and Thad W. Tate
Norton, £24.00
ISBN 0 393 01751 6

A truth still very imperfectly grasped in British university history departments is that British and American colonial history are a part of each other; neither can be properly understood without a knowledge of the context of the whole. It was understood in the Treasury, in the Admiralty and the Board of Trade, and by certain leading churchmen; and times of imperial war forced the issue to general consciousness. But this understanding was shared only sporadically by members of Parliament, and makes a comparatively limited impression on present-day British historians. It is to be hoped by way of corrective that this collection of essays will be

widely and carefully read by every historian interested in—and teaching—the British 17th and 18th centuries. And it is fitting that this tribute to Edmund S. Morgan by some of his former students should have inspired each contributor to his or her best efforts.

There are three sections: "Religion and Mentality"; "Law and Politics"; and "Culture, Society and Revolution". Stephen Foster shows how New England Puritanism survived intact, while, after the Restoration, the English half disintegrated into its component parts; gently reproving the "de-clension" thesis, he sees the Restoration as ushering the "austere golden age" of the Puritan movement in its American refuge. Christine Leigh Heyman has some unusually interesting light to throw on the old question of witchcraft. She suggests that popular resistance to religious liberalization provided the context for the panic in Essex County in 1692. The Quakers caused alarm and hostility. Quakerism created a transatlantic association which threatened the roots of the Congregational communities; and she observes that until the founding in 1714 of an Episcopal church in Salem "the only other religious fellowship in the country

that commanded such strong transatlantic loyalties was the suspected witch coven that was also centered at Salem". David Hall's study of "The Mental World of Samuel Sewall" illuminates much more than one man's mind, and sensitively explores the different modes of time in which a man might live. Hall's essay has significance that extends far beyond Sewall's Boston. He illuminates the almost totally religious frame of reference and causation in the essentially pre-scientific mentality, to which British historians should refer as they pursue the inference of Keith Thomas's *Religion and the Decline of Magic*.

It is no digression to excellent studies by Gail Sussman Marcus and G. B. Warden to say that John Murray's essay on jury trial in 17th-century New England stands out as the most distinguished contribution to "Law and Politics". Juries—where they operated—and magistrates shared a responsibility more onerous than just that of punishing or deterring crime; they had to protect the community from the resurgence of a justly angry God. John Winthrop was thus actually accused on arbitrary conduct when a governor he mitigated the traditional rigours of the law. Some of the most severe penalties were seldom enforced

(no child seems to have been put to death for defying its parents) but Massachusetts hanged a couple for adultery in 1644. Magistrates punished sin, not just crime. But juries also aimed to preserve the harmony of the village, a duty they combined with that of being moral watchdogs. This long essay—which notes a decline in the duty of guilt among those who chose jury trial towards the end of the century—makes an important shift away from historians' over-attention to governors and assemblies and their constitutional encounters. Joy and Robert Gilsdorf offer some refinements on the concept of "deference", which they find largely wanting in colonial Connecticut. Since this is where one would least expect to find it, these remarks have rather less content than a similar study of certain other colonies could have done.

Timothy Breen takes us to Virginia for an imaginative study of the importance of tobacco planting as a highly skilled craft, in which degrees of success became the measure of a planter's social and self-esteem. Among other essays, James Hutson argues at considerable length for substituting the concept of "jealousy" for that of "paranoia" as the prevailing mode of the colonial political mind. To

contemporaries, jealousy meant "suspicion", or at least a watchful scepticism. While this makes the whole disposition eminently sane, and based on a rational appraisal of the dangers of political power, the implied effect is to distinguish sharply between colonial thought and that of the Republic. When Richard Hofstadter introduced the concept of the "paranoid style in American politics", he did mean that American politics exhibited a recurrent streak of pathological disorder. Students of the colonial period will be glad to have sanity restored to the subject. But the Revolution "republicanized" jealousy. The early 19th century seems to have freed federal politics from its gaze, only to steer it towards other targets, such as missionary, the Catholic church and eventually the slave power. The question of what was rational and what was hysterical in these disputes does not seem to have been fully resolved, if only because one can see room for legitimate differences of opinion.

J. R. Pole

J. R. Pole is Rhodes Professor of American History and Institutions in the University of Oxford.

Chapters on the industry's infrastructure are included — namely, of the fuel cycle industries from uranium mining to the reprocessing of spent fuel and on radioactive waste disposal. The book also contains chapters on the reprocessing of spent fuel from commercial reactors to recover the uranium and plutonium would become widespread in the United States has not been realized in practice. However, although the subject of radioactive waste disposal has also advanced considerably, the recommendations of the element of principles which is given remains valid. In a final chapter on "Technological assessments," the author poses the central dilemma of nuclear power. The environmental risks are low compared to those of other industries and the potential for energy margins reduction in a already low level of risk become very high; some balance has to be achieved. The book is a mine of information. Indeed, one criticism is that too much detail is included, much of it necessary

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Candidates should have good background in either Sports Science, or one or more of the relevant academic disciplines, (i.e. Sociology, Psychology, Exercise Physiology). The possession of computing skills would be an advantage.

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Suitably qualified candidates required from

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For further particulars and an application form send a self addressed envelope to the Assistant Director, Buckinghamshire College of Higher Education, Queen Alexandra Road, High Wycombe, Bucks.

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A vacancy exists for a: COMPUTER PROGRAMMER

at Trinity and All Saints' College, which is a Catholic College of Higher Education affiliated with the University of Leeds.

Applicants must have a degree level, or appropriate, qualification in computing and computer programming.

This new post will allow the successful applicant to develop computing in the College through the provision of a professional programming service.

The post is in the N.J.C. Scale SO1 Range (£9,477-£10,107) - Pay Award pending.

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Application forms and further particulars are available from: The Bursar, Trinity and All Saints' College, Brownbarrie Lane, Horsforth, Leeds LS18 5HD.

Closing date for applications - Friday, 19th July 1985.

(020298)



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Applications are invited for the post of Lecturer in Divinity for a fixed term of one year to commence on the 1st September 1985, or as soon as possible after as can be arranged.

The person appointed will be required to contribute to courses in Historical Theology, especially the Patristic and Modern Period and Adult Religious Education, for M.Ed., B.Ed. Hons. and B.A. Degrees.

The appointment will be at the appropriate point on the Lecturer I/II/III Burnham F.E. scales. A letter of application and the Rector, Liverpool Institute of Higher Education, 3 Ring Park Road, P.O. Box 6, Liverpool, L18 3JD.

(020246)

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Department of Catering and Hotel Administration

Temporary Lecturer (LII) in Food and Beverage Management

Applications are invited for a one year temporary full-time lectureship in Food and Beverage Management. Candidates should have had industrial experience and preferably should hold an appropriate degree, diploma and/or professional qualification. Some teaching experience or a teaching qualification would be beneficial.

Temporary Lecturer (LII) in Food and Beverage/Accommodation Management

An experienced manager is sought with a background in hotel administration covering the areas of food and beverage and accommodation. Candidates should preferably have some teaching experience and should hold an appropriate degree, diploma and/or professional qualification. The appointment will be for one year as a full-time lecturer (LII).

Department of Tourism, Recreation and Field Sciences

Temporary Lecturer (LII) in Human Geography

A one year full-time temporary appointment. Preference will be given to candidates with a knowledge and experience of Statistical Methods.

Temporary Lecturer (LII) in Tourism Studies

A one year full-time temporary appointment in tourism studies. Applicants should have either industrial experience in travel and tourism or have recently completed major academic or research studies in the business studies/tourism areas.

Starting date: 1 September 1985 or as soon as possible thereafter.

Salary scale: Lecturer II: £7548-£12089 p.a. (under review)

Closing date: 19 July 1985

For further details and an application form, please contact: Mrs. E. Dommett (ref. THS 24) Room F2, Dorset Institute of Higher Education, Wallisdown, Poole, Dorset. BH12 8BB.

(020310)

King Alfred's College WINCHESTER

VICE-PRINCIPAL

Applications are invited for this post, which is to be filled from 1st January 1986 following the retirement of the present holder.

The person appointed will be mainly concerned with academic affairs and the management of resources relating to them. Candidates are sought who are academically highly qualified, and who have experience in higher education relevant to this key appointment in the senior management of the College.

It is required that the Vice Principal be a communicant member of the Church of England or a church in communion with it.

Salary will be within the range for Vice Principals, Group 7.

Further details may be obtained from the Clerk to the Governors, King Alfred's College, Winchester SO22 4NR (Tel: Winchester 62811).

The closing date for applications is 29th July 1985.

(020296)

COUNTY OF AVON

BATH COLLEGE OF HIGHER EDUCATION

(Incorporating Bath Academy of Art)

RESEARCH ASSISTANTSHIPS

£5,667-£6,405 (under review)

Available for one year in the first instance with the possibility of extension up to three years.

1. Within the Faculty of Education: to collaborate on a project on the perceived opportunities offered by schemes of pre-vocational and vocational preparation for 14-19.

2. Within the Faculty of Home Economics, Science and Humanities: BIOLOGICAL/NUTRITIONAL SCIENCES (physical properties of food: nutrition of the disabled), 20th CENTURY ENG. LIT., MODERN ANGLO-IRISH HISTORY.

Applicants will be required for a higher degree.

Further particulars from The Director, Bath College of Higher Education, Newton Park, Bath BA2 9BN. Tel: Salford (02217) 3701.

Applications to be returned within 14 days of this advertisement.

(020247)

West London Institute of Higher Education

PARTTIME LECTURERS

We are updating our register of part-time lecturers to teach in the following areas: Administration, Office Administration, Skills, Business Law, General Secretarial and Secretarial Practice, Principles of English Law and Basic Accounting.

Experience in the private or public sector would be an advantage.

Please telephone Jessica Pearson on 568 8741 for further information or send Curriculum Vitae to: West London Institute of Higher Education, 100, Park Road, W1P 0JH, London, W1P 0JH.

Closing date for applications: 19th July 1985.

1780 is an equal opportunities employer.

(020248)

All advertisements are subject to the conditions of acceptance of Times Newspapers Ltd, copies of which are available on request.

Cambridgeshire College of Arts and Technology

(Equal Opportunity Employer)

Department of Science

Required from 1st September 1985 or as soon as possible thereafter.

(1) SENIOR LECTURER IN COMPUTING

Candidates should have an honours degree in an appropriate discipline and teaching experience. Ability in one of the fields of: Systems Analysis, Data, Networking, Operating Systems, Knowledge Based Systems, would be an advantage.

(2) LECTURER I IN MICROBIOLOGY

Candidates should be graduates in Microbiology and will be required to teach general microbiology from BTEC National Certificate to Honours Degree level. An interest and/or experience in industrial/applied microbiology would be an advantage.

Salary Scales (award pending): (1) S.L. £11,750-£13,128-£14,088. (2) L.I. £7,548-£12,089-£14,088. Starting points according to qualifications and experience.

Details and forms, to be returned by 19th July 1985, to: The Director, Cambridgeshire College of Arts and Technology, 100, Park Road, Cambridge CB2 3RQ. Tel: (0223) 555992, (51340) 518.

Closing date: 16th July 1985. (01533)

Application forms and further details from The Director, Cambridgeshire College of Arts and Technology, 100, Park Road, Cambridge CB2 3RQ.

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Ealing College of Higher Education

School of Humanities

LECTURER IN ENGLISH

(Temporary one year appointment)

Applications are invited from graduates with substantial teaching experience and a postgraduate qualification in English. The successful candidate will be required to teach a group of English students undertaking a one-year foundation course in English. The successful candidate will be required to teach a group of English students undertaking a one-year foundation course in English. The successful candidate will be required to teach a group of English students undertaking a one-year foundation course in English.

LECTURER I IN PSYCHOLOGY

(Temporary 1 year appointment)

To teach Cognitive Psychology mainly at degree level. Previous applicants may re-apply.

The posts are tenable from 1st September 1985 for one year.

Salary: £12,500-£15,500 p.a. inclusive of London weighting.

Application forms and further details from The Director, Ealing College of Higher Education, 100, Park Road, Cambridge CB2 3RQ.

Closing date: 16th July 1985. (01533)

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Colleges and Departments of Art

EPSOM SCHOOL OF ART AND DESIGN

Applications are invited for the post of

HEAD OF DEPARTMENT COMMUNICATION DESIGN

The Department currently offers two B/TEC National Diploma Courses in Graphic Design and Audio Visual Design, and a B/TEC Higher National Diploma Course in Graphic Design. There is a strong interest in Computer Aided Design in all courses.

Applicants should have good professional design and educational management experience at an appropriate senior level.

Salary: Burnham Head of Department Grade IV £15,063-£16,842 (inclusive of Surrey Allowance). Further particulars and application forms from The Chief Administrative Officer, Epsom School of Art and Design, Ashley Road, Epsom, Surrey KT18 5BE. (Tel: Epsom 28811)

SURREY COUNTY COUNCIL

Research and Studentships



LIVERPOOL POLYTECHNIC

Department of Mechanical, Marine and Production Engineering

M.Phil/Ph.D'S BY RESEARCH

S.E.R.C. RESEARCH STUDENTSHIPS (AND NAB RESEARCH ASSISTANTSHIPS) are available to undertake work from the following areas:

Hybrid Bearings
Laser vision systems (automatic inspection and engineering optics)
Manufacturing systems and processes
Mechanisms and Machines (High Speed Machines and Robotics)
Servo valve Dynamic Flow Analysis
Computational Fluid Mechanics and Heat Transfer
Materials Science (Biochemical Applications)

Applicants should be highly motivated and have a good Honours Degree in Engineering or other numerate related discipline. Applications and further information from Postgraduate Tutor, Dept. of Mechanical, Marine & Prod. Eng., Liverpool Polytechnic, Byrom Street, Liverpool L3 3AF.

Liverpool Polytechnic is an Equal Opportunity Employer and welcomes applications irrespective of race, sex, marital status or disability. (020335)



DEPARTMENT OF CATERING AND HOTEL ADMINISTRATION

RESEARCH ASSISTANT

Applications are invited for the post of research assistant to work on a project investigating the need for 'distance learning' practices in the catering and hotel industry. The post is for two years in the first instance, renewable for a further year in order that the successful applicant may complete a higher degree (MPhil/PhD). Candidates must hold a degree and should have some experience of the catering industry. A teaching qualification or experience

